Oslo 7 september 2021

Case: Northvolt
Vi har sett på stillingsutlysningene til Northvolt som planlegger oppstart av ny cellefabrikk (Northvolt Ett) i Skellefteå mot slutten av 2021. Det antas at stillinger og kompetansekrav vil være forholdsvis likt det som etterspørres av lignende fabrikker i Norge

Informasjon i dette notatet er hovedsakelig hentet fra:

- Northvolt sine hjemmesider (det ble forsøkt å etablere direkte kontakt med rekrutteringsteamet til Northvolt, men siden deres hovedfokus er fabrikkoppstart mot slutten av året kunne de ikke hjelpe oss)
- Artikler i diverse fagtidsskrifter og aviser
- Diverse EU organer/prosjekter som «The Alliance for Batteries Technology, Training and Skills» (ALBATTS) og «Batteries Europe»
- Swedish Battery Strategy
- Anders Nordberg, Education Strategist, Skellefteå kommune og koordinator Ersamus+ ALBATTS
- «Workshop on education requirements» arrangert av ALBATTS i juni 2021

Innhold

Sammendrag

For å dekke behovet for personell til sin nye cellefabrikk i Skellefteå baserer Northvolt seg på intern opplæring, utdanningssamarbeid med kommunen og rekruttering av batterispesialister fra Asia. For kommunen betyr fabrikketableringen mange nye arbeidsplasser og den har bidratt med betydelige ressurser for å få på plass relevante utdanningstilbud. Tilbudet må imidlertid utvides i årene fremover dersom det skal holde tritt med fremtidig etterspørsel. Når det gjelder utdanningstilbudet på videregående skoler, fagskoler, høgskoler og universiteter er Sverige, i likhet med Norge, i oppstartsfasen. Dette gjelder også andre land i Europa og mangel på utdanningstilbud kan bli en reell flaskehals for rekruttering av kvalifisert personell til nye batterifabrikker.

Innledning

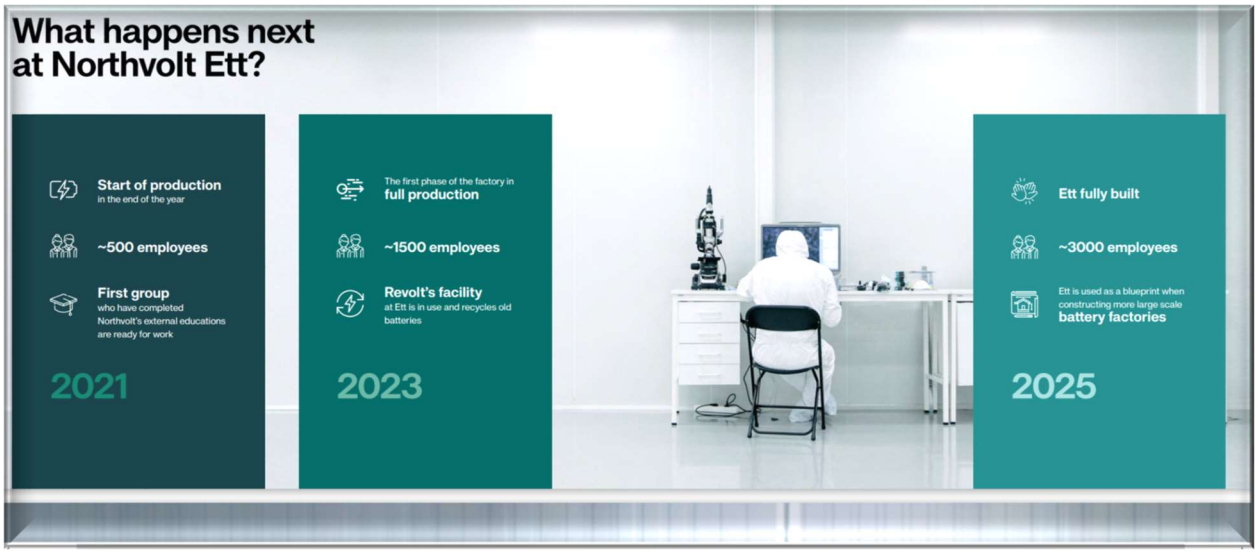
Hovedfokus i kartleggingen har vært å undersøke hvilken fagkompetanse som etterspørres av selskapet Northvolt som bygger en såkalt gigafabrikk (Northvolt Ett) i Skellefteå i Sverige. Fabrikken skal produsere battericeller og planlegger oppstart mot slutten av 2021. I oppstarts-fasen søker Northvolt å dekke sitt behov for fagfolk gjennom å hente dem fra andre land, fra andre industrier i Sverige og gjennom «lokal» utdanning enten i egen regi eller i samarbeid med kommunen.

Figur 1. Fakta om Northvolt ETT (www.northvolt.com)

Northvolt

Northvolt ble etablert som selskap i 2016, med hovedkontor i Stockholm. Beslutningen om å bygge en gigafabrikk i Skellefteå ble tatt året etter og samtidig ble det bestemt at det skulle bygges et demonstrasjons- og FoU-anlegg i Västerås. Her skal bl.a. utvikling av celledesign foregå og de som rekrutteres til slike og lignende oppgaver forventes å ha høyere akademisk utdannelse (MSc/PhD). Northvolt ønsker også å levere ferdige batteriløsninger til det europeiske markedet og etablerer derfor et produksjonsanlegg for batterimoduler og energilagringssystemer i Gdansk i Polen.

Ved oppstarten i 2021 vil det være ca. 500 ansatte på fabrikken i Skellefteå. Dette øker så til 1.500 ved utgangen av 2023 og til 3.000 når fabrikken står ferdig utbygd i 2025.



Figur 2. Forventet utvikling i antall ansatte (www.northvolt.com)

Det foreligger planer om betydelig utvidelse av fabrikken frem mot 2030, noe som betyr opp mot 10.000 ansatte. Vi er imidlertid ikke kjent med at det er tatt noen endelig beslutning om slik utvidelse.

Fordeling av personell på fagdisipliner

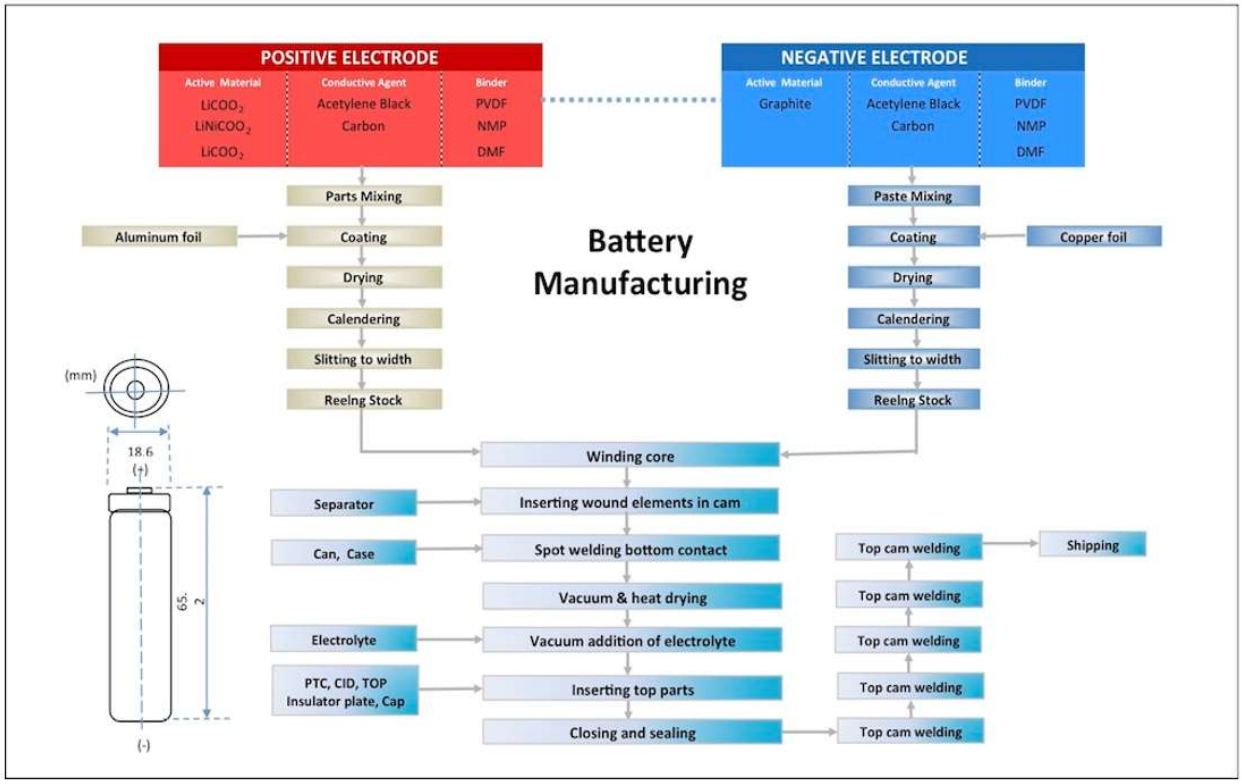
Northvolt Ett skal produsere battericeller og det er behov for personell innenfor mange ulike fagdisipliner. Den største gruppen vil være kategorien "operatører" som vil utgjøre 75-80% av arbeidsstokken. Antatt fordeling av de 3000 ansatte på Northvolt Ett ved utgangen av 2025 er:

- *Ca. 2250 til 2400 (75-80%) vil være «kollektivanställda». Dvs. maskinoperatører, vedlikehold og logistikk*
- *300 til 350 (10-15%) vil være ingeniører og arbeidsledere med sammenlignbar kompetanse og erfaring*
- *150 til 300 (5 til 10%) vil være ansatt i administrasjon, HR, osv*.

De ulike stegene i batteriproduksjon er vist i Figur 3.

Hva slags produksjonspersonell søker Northvolt etter?

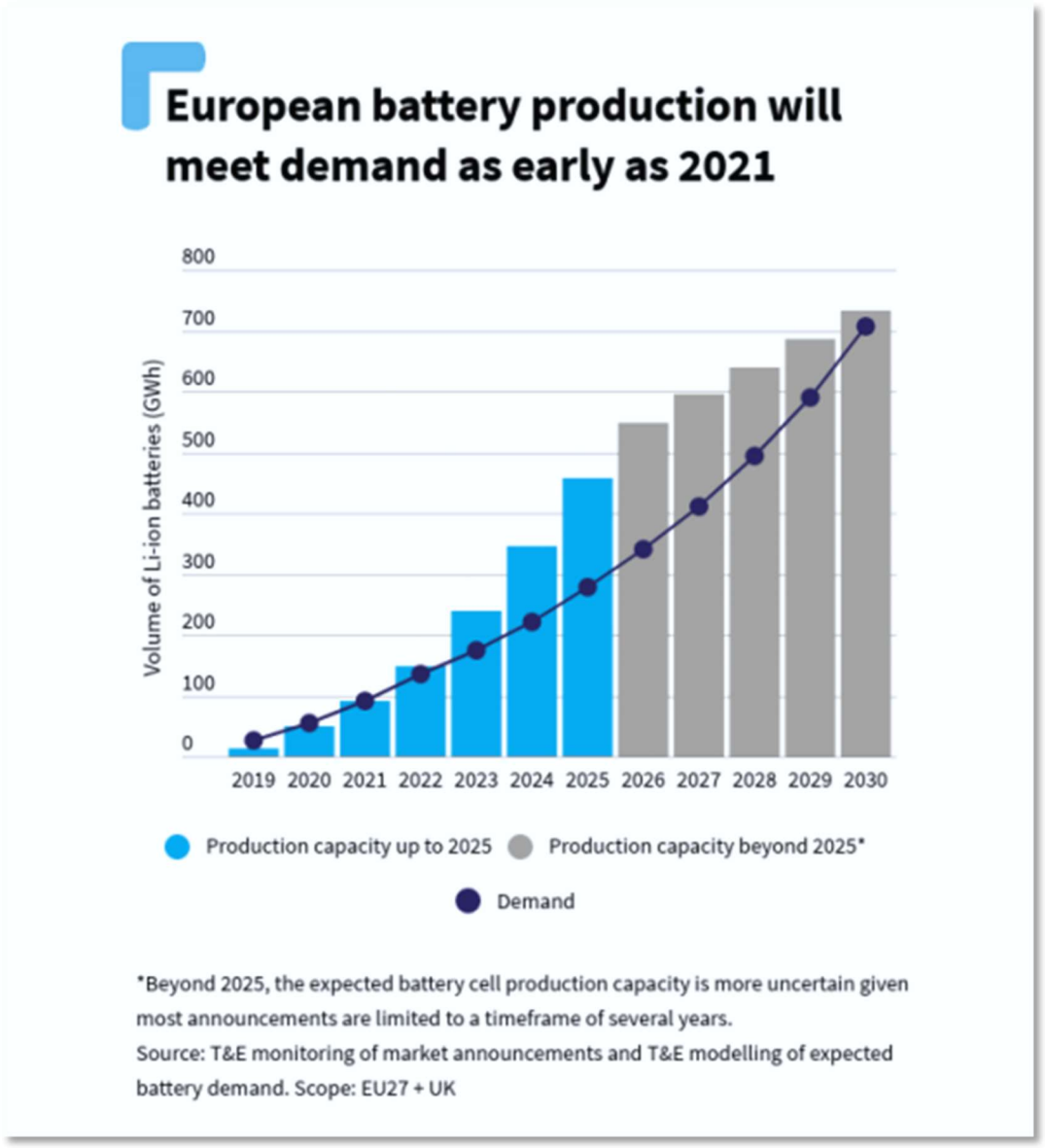
I oppstarten er Northvolt avhengig av å hente erfarne batterispesialister fra utlandet, primært fra Asia, og det antas at det benyttes attraktive økonomiske insentiver (lønn, bonuser, aksje-opsjoner, mm.) for å tiltrekke seg ønsket kompetanse. Northvolt søker også etter personell med erfaring fra annen relevant industri i Sverige, som for eksempel bilindustrien (*Tabell 1*). Rekruttering fra andre europeiske land er også aktuelt, men pga. den pågående oppskaleringen av batteriindustrien i hele Europa, så er det allerede mangel på relevant arbeidskraft. Ifølge organisasjonen Transport & Environment (mars 2021) vil det frem til 2030 bygges 22 gigafabrikker i Europa/UK. De anslår at batteriproduksjonen i Europa vil dekke etterspørselen til



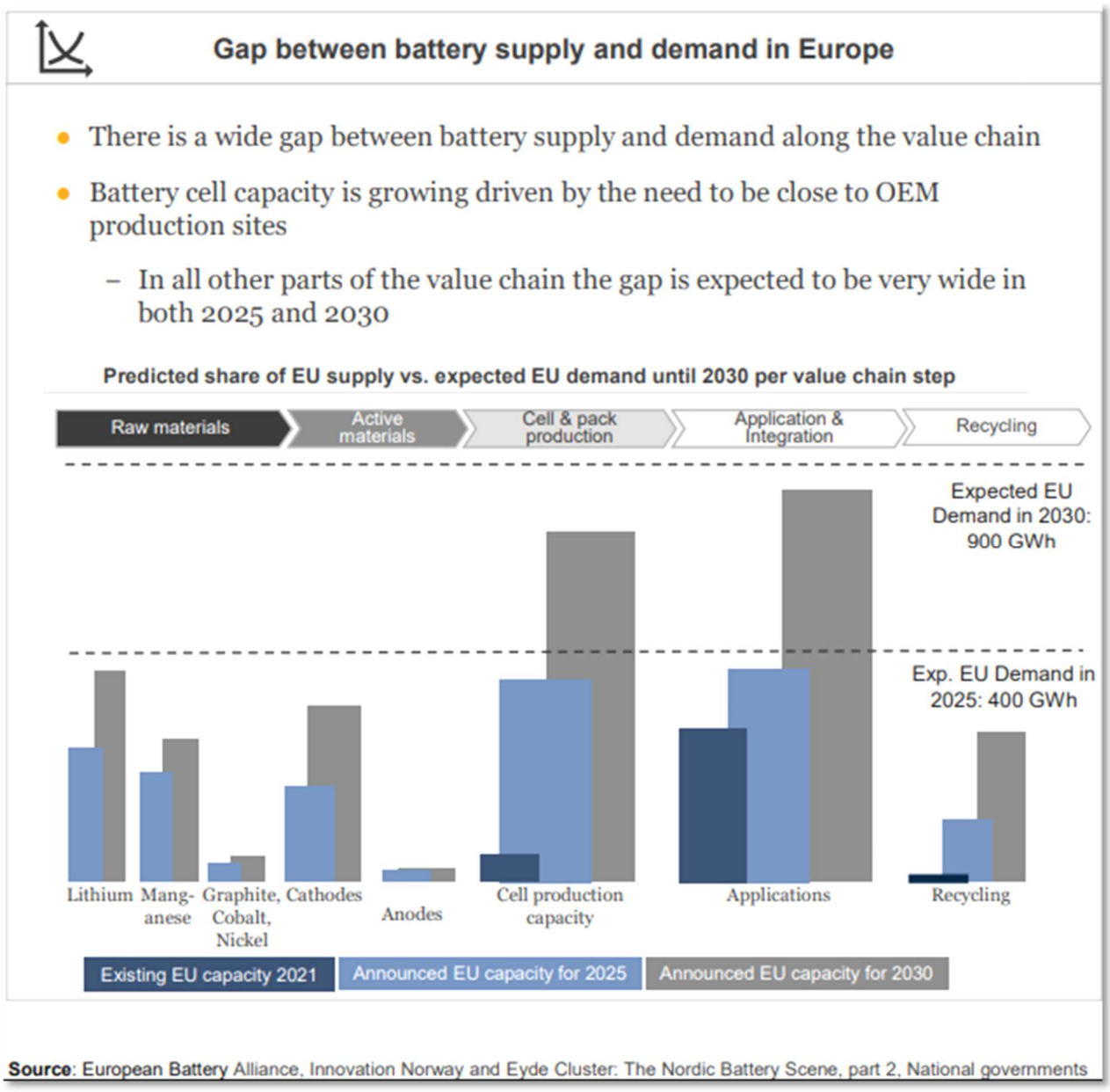
Figur 3. De ulike stegene i batteriproduksjon (http://chrishillsethenterprises.com/battery/about-lithium-ion-battery-manufacturing/

elbil-markedet allerede i 2021 dersom fabrikkene kommer i gang som planlagt (*Figur 4*). Ifølge rapporten "The Nordic Battery Value Chain" (august 2021) vil imidlertid ikke produksjonen nærme seg etterspørselen før i 2025 (*Figur 5*). Men når det gjelder råmaterialer (litium, cobolt grafitt, m.fl.) og aktive materialer (katoder og anoder) vil ikke EU klare å dekke sitt eget behov i overskuelig fremtid.

Behovet for batterier forventes å øke kraftig i årene fremover da EU sin "Fit for 55 package" krever at CO2 utslippene fra nye biler i 2030 er 55% lavere enn i 2021. Og fra 2035 vil EU forby salg av nye bensin- og dieselbiler.



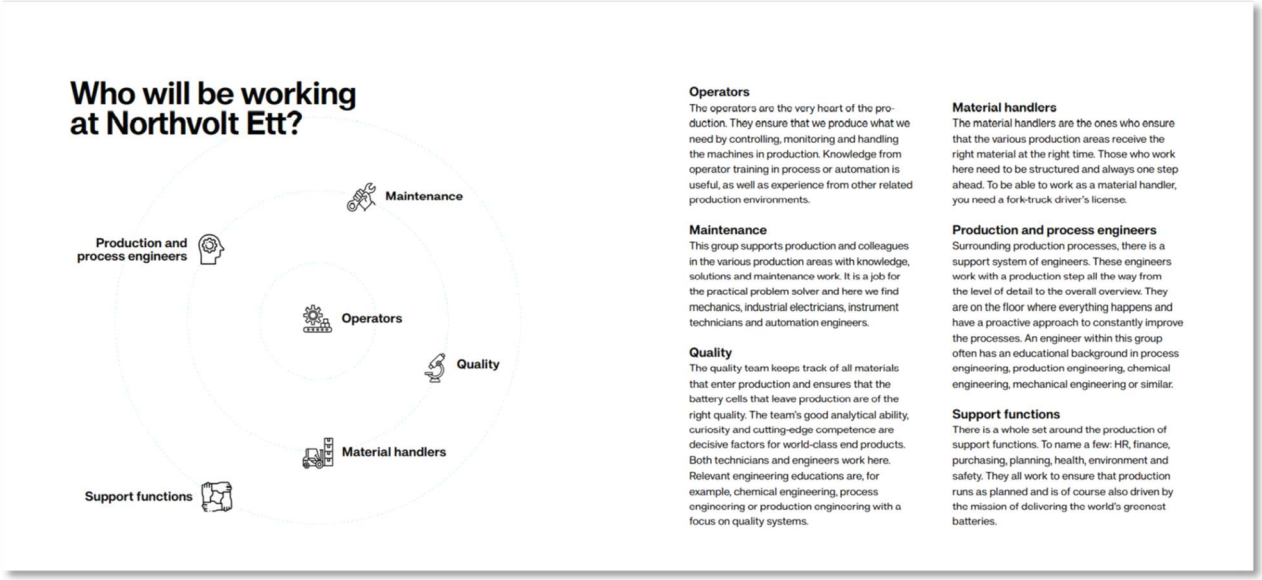
Figur 4. "From dirty oil to clean batteries (Transport & Environment, 2021)"



Figur 5. Batteriproduksjon vs. etterspørsel (The Nordic Battery Value Chain, august 2021)

Tabell 1. Eksempler på relevant arbeidskraft som gjennom kortere kurs kan kvalifisere seg til jobb i batteriindustrien

Oppgave	**Etterspurt bakgrunn**
Upstream (forberedelse av aktivt batteripulver fra råvarer)	*Kjemikere, Laboratorieassistenter Legemiddelindustri*
Downstream (mixing, coating og tørking)	*Samme som for upstream* *Næringsmiddelindustri*
Calendering, slitting, rolling, electrolyte filling, case welding	*Klassisk verkstedindustri* *Papirproduksjon*
Clean/dry room arbeid	*Elektronikkindustri*
Formation	*Statistikere,* *Datateknikere* *Personer som er vant til å jobbe med tall, er nøyaktige, og kreative når det gjelder feilsøking*
Gjenvinning	*Gjenvinningssektoren og fra raffinering av metaller o.l. (personer som kan biohydrometallurgi, elektrolyse, osv.)*
Vedlikehold	*De som kan skru og montere, f.eks. bilmekanikere*



Figur 6. Arbeidsfunksjoner på Northvolt ETT (www.northvolt.com)

Stillingsannonser

Generelt om stillingene

Northvolt lyser ut stillingene på egen hjemmeside og er opptatt av å fremstå som fremtidsrettet og en betydningsfull aktør i det grønne skiftet. Stillingsannonsene fungerer som god markedsføring av selskapet og dets verdier og ikke minst henvender de seg til yngre mennesker for å få dem til å se batteriindustrien som en interessant/spennende karrierevei. Noe av det stillingsannonsene fokuserer på er:

- *Internasjonalt miljø og muligheten til å jobbe med «noen av de beste» innenfor batteriproduksjon*
- *Entreprenørkultur og «can-do» holdning*
- *Et «must» at man kan tilpasse seg en multikulturell arbeidsplass*
- *Kjønnsbalanse. Batteriindustrien er like godt egnet for kvinner som for menn*
- *Insentivprogrammer (aksjeopsjoner, ol.)*
- *«Wellness grants»*
- *Ordnede arbeidsforhold (bl.a. tariffavtaler for enkelte grupper), god balanse mellom arbeid og fritid og et bredt utvalg av fritidsaktiviteter og servicetilbud i nærmiljøet*
- *Heltidsjobb og fast lønn*
- *Bygging av bedriftskultur/gruppetilhørighet bl.a. ved å kalle ansatte for «Northvolters»*

Figur 7. Hvordan Northvolt markedsfører seg som arbeidsgiver (www.northvolt.com)

Utlyste stillinger

Stillingene som er listet opp under *(Tabell 2)* er de som var annonsert på Northvolt sin hjemmeside i begynnelsen av juli i år og gjelder jobber i produksjonen (**manufacturing**) på Northvolt Ett. Til sammen 46 ulike kategorier. En gjennomgang av utlysningene to måneder senere (ultimo september) viser at Northvolt fortsatt søker etter personell til mange av de samme kategoriene

Tabell 2. Utlyste stillinger i produksjonen (manufacturing) hos Northvolt ultimo juli 2021

Position	**Job description**
Automation/Process operator	*Maintenance, quality, material handling, risk analysis*
Arbeidsmiljøingeniør	*HSE, development of safety culture*
Automation Engineer	*Maintain a safe production line, contin. Improvement*
Automations/process operator 2	*Maintenance, quality, material handling, risk analysis*
Business Project Manager	*Improve cross-functional projects in production*
Clean room specialist	*Responsible for cleanliness standards and procedures*
Shift manager Material Handler	*Lead a team of material handlers*
Skiftledare	*Lead team of 15. Develop SOPs*
Cell Test Technician	*Run and supervise tests*
Energy Engineer	*Energy mapping of production processes*
Energy recovery operator	*Heating, cooling and other media*
Energy recovery Supervisor	*Planning and leading a team*
Facility Documentation Engineer	*Understand documentation demand, process analysis*

Facility Service Coordinator	*Ensure safe working conditions. Cost focus*
Facility Technician	*Planning and performing maintenance actions*
Formation Maintenance Manager	*Resp. for maintenance strategy for Formation area*
Health and Safety Engineer	*HSE standards, complience with legislation and internal rules*
Industrial Cleaning Technician	*Ensure clean and safe working environment*
Industrial Electrician	*Install, maintain and repair electrical control, wiring, and lighting systems*
Inspection Engineer	*Optimize maintenance in terms of reliability, cost, safety*
Instrument Technician	*Execution of instrumental maintenance in the factory*
IT demand Engineer	*Efficient and easy to use IT and digital solutions*
Lean manufacturing Engineer	*Development and execution of production system and lean Roadmap*
Maintenance Engineer	*Preventive and corrective maintenance*
Material handler	*Loading and unloading waste, materials and cells*
Material Planner	*Ensure flow of approved materials, coordinate interdepartemental activities*
Mechanical Technician	*Execution of mechanical maintenance*
Miljøspesialist/Miljøingeniør	*Bidra til miljøbevissthet i hele org, miljøovervåkning*
Maintenance - open application	*Preventive and corrective maintenance*
Planner	*Plan production*
Process operator upstream	*Good chemical understanding*
Production Block manager	*Planning, directing and monitoring production activities within designated process area*
Production Control Coordinator	*Master data expert for engineering and manufacturing data and changes*
Production Engineer	*Drive projects and actions with purpose to solve problems and increase efficiency*
Production Engineer chemical process	*Process expert. Increase production efficiency*
Production Manager Cell Assembly	*Planning, directing and monitoring production activities within designated process area*
Production Manager Downstream	*Planning and driving all production activities within Downstream unit*
Project Manager Production Technology	*Ensure project deliveries on time*

Senior Material Planner	*Oversee various aspects of daily planning operation*
Senior Planner	*Plan production*
Shift manager	*Lead shift team of around 15 employees*
Shit manager upstream	*Lead shit team of around 15 employees*
Mekaniker	*Vedlikehold, installasjoner. Feilsøking, reparasjoner, inspeksjoner*
Industrial Electrician	*Electrical maintenance in the factory*
Die Maintenance Electrician	*Die and tooling maintenance to fine tolerances which is used in the mass manufacture of lithium-ion cells.*
Central workshop machinist	*Manufacture of high precision components*

Lenken under gir tilgang til fullstendig oversikt over stillingene i listen over og hvilke krav som stilles til utdanning og kompetanse (Jobbkategorier.xlsx (sharepoint.com)

Utdanning i samarbeid med kommunen

Northvolt gjennomfører kursing av ansatte i forbindelse med "onboarding" og de har laget voksenopplæringskurs i samarbeid med Skellefteå kommune. Praktisk opplæring i produksjonsprosesser for nyansatte er nødvendig, og Northvolt samarbeider derfor med Campus Skellefteå (offentlig skole) om å få på plass relevante laboratoriefasiliteter. Virtuell trening (XR, VR, AR) er svært aktuelt og det er søkt om støtte fra «Research Institutes of Sweden» (RISE) til å etablere relevante treningsfasiliteter.

Et etterutdanningsprogram, spesialtilpasset behovet til Northvolt, er i støpeskjeen slik at ansatte kontinuerlig kan oppdateres på ny kunnskap og produksjonsteknologi.

Utdanningen som hittil er etablert i Skellefteå er ikke spesialtilpasset batteriindustrien, men handler mest om hvordan det er å jobbe i denne typen industri.

Et eksempel på utdanning i kommunal regi er "Automation operator", et kurs som tilbys av Voksenopplæringen og går over 23-24 uker (600 timer). Se **vedlegg 1** for detaljert kursinnhold.

Figur 8. Markedsføring av utdanningstilbud som tilbys i samarbeid med kommunen (www.northvolt.com)

Skellefteå kommune har egne personalressurser dedikert til utvikling og etablering av relevant utdanning (inkl. videre/etterutdanning) som kvalifiserer til jobb i batteriindustrien. For å komme i gang med arbeidet har kommunen brukt anlegget til Tesla/Panasonic i Nevada (USA) som referanse da Northvolt Ett vil ha mange likheter. **Se vedlegg 2 for å lese kommunens refleksjoner etter en studiereise til Nevada i 2018 samt se en oversikt over utlyste stillinger på fabrikken til Tesla/Panasonic.**

Utdanningsbehov Sverige

I følge "Swedish Battery Strategy" (2021) er det behov for å utdanne 1000 kandidater per år fordelt på alle nivå fra fagbrev til høyere utdanning. Myndighetene bes bl.a. om å finansiere nye utdanningsprogrammer på videregående- og fagskolenivå slik at de som ønsker det kan kvalifisere seg til å jobbe i batteriindustrien. Det pekes også på behovet for forskningslaboratorier for utvikling av nye materialer og prosesser samt behovet for treningssentre for operatører mfl.

Høyskoleutdanning

Behovet for høyskoleingeniører (minimum 3-årig) antas å utgjøre 10-20% av det totale rekrutteringsbehovet til batteriindustrien og dagens tilbud i Sverige dekker knapt behovet til Nortvolt alene. Det anses ikke å være nødvendig å utdanne egne "batteringeniører" så lenge de som utdannes kan tilbys relevante "batterikurs" som en del av det ordinære studieprogrammet eller som videre- eller etterutdanning.

Behovet for sivilingeniører vil også være betydelig og det er anbefalt at batteritekologi bygges inn i allerede eksisterene studieprogrammer. En egen "batterimastergrad" som bl.a. går i detalj

på battericellekonstruksjon og produksjon, finnes ennå ikke i Sverige, men i følge professor Pär Weihed (pers. kom.) planlegger universitetet i Uppsala oppstart av et slikt studium i 2022.

Yrkeshøyskoleutdanning (Fagskole)

Det antas at en del av behovet for høyskoleingeniører (over) kan dekkes av en spesialisert "batteritekniker" utdanning som kombineres med interopplæring i egnet bedrift.

Andre fagutdanninger som kan være relevante for batteriindustrien:

1) *Maskinoperatør*
2) *Logistikk- og lagerpersonell (kan bl.a. være arbeidsledere)*
3) *Kvalitet/måling/kalibrering*
4) *Produskjonsteknikk*
5) *Sikkerhet/HMS*

Utdanningsbehov i EU (*Fra ALLBATS workshop juni 2021/Batteries Europe*)

Det antas at det vil være ca. 800.000 "batterijobber" i Europa innen 2025 og mer enn 1 million i 2030. Det er mangel på kvalifisert personell og det er vanskelig å hente dem direkte fra andre sektorer, uten at de etterutdannes. Det er heller ikke noe ønske om å kannibalisere på andre næringer. Det er foreløpig få utdanningsprogrammer tilgjengelig og det anbefales at både akademiske- og yrkesutdanninger styrkes. Det pekes også på viktigheten av samarbeid og personellutveksling mellom industrien og utdanningsinstitusjonene.

Et europeisk mastegradsprogram (MESC+) som utdanner kandidater i materiallære og elektrokjemi er spesielt rettet mot batteriindustrien. Programmet er 2-årig og undervises (kun på engelsk) på 5 universiteter i Europa (i 4 forskjellige land) og på ett universitet i hhv. USA og Australia. Inntil 30 nye studenter tas opp hvert år og programmet er anerkjent og støttet av industrien. Aktører i den europeiske batteriindustrien peker på viktigheten av at europeiske fagskoler og universiteter samarbeider og at utdanningene som tilbys er gjenkjennelige og sammenlignbare mellom land. Dette vil gjøre det mye enklere å rekruttere på tvers av landegrenser

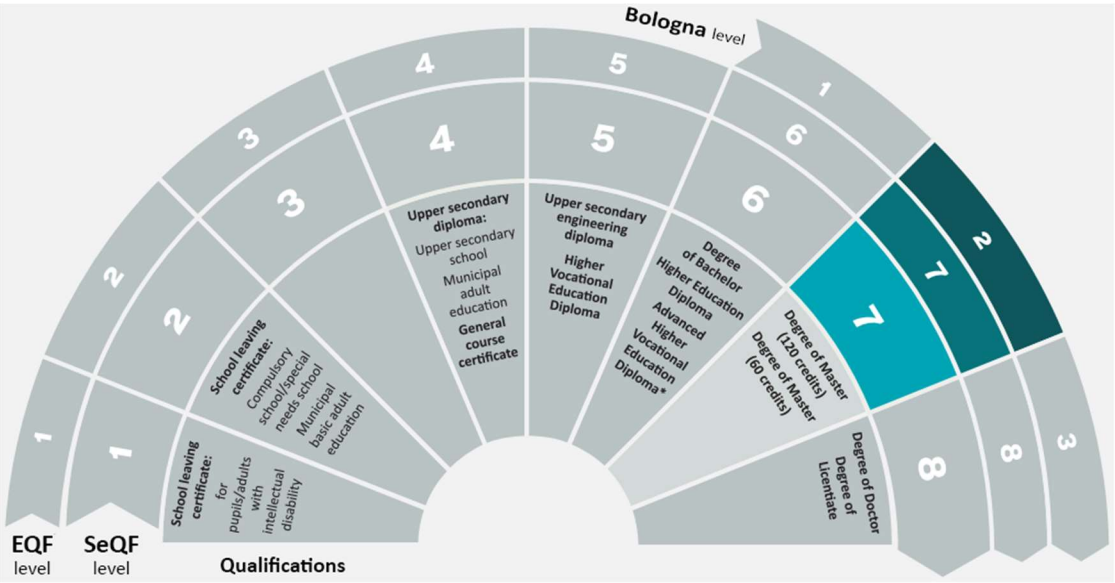
VEDLEGG

Vedlegg 1. Pensum "automasjonsoperatør"

Syllabus-Automation operator, EQF-level 4

Education: Automation operator

This is a 600 credits (600 hour) education distributed over 23-24 weeks.



Grading

All courses are national courses from the Swedish school authority, Skolverket. All courses contain grading criteria adapted to the content in the courses.

The grades, A to F, are based on these criteria where A-E is pass and F is not.

Students perform theoretical and practical steps to achieve knowledge in each course and are graded based on the criteria.

Teachers

Adult education, VUX, in In Skellefteå have teachers on site who carry out training with the students in each course.

There are also guest lecturers from different industries in industry-specific subjects involved.

Remedial maintenance-100 credits/hours

The central content of the teaching:

1. Easier remedial maintenance of machinery and equipment.
2. Planning and implementation of corrective maintenance using drawings, diagrams and manuals.
3. Regulations on working environment, personal and machine safety.
4. Laws and regulations on, for example, lifting devices, pressure vessels, hot work, chemicals and gases.
5. Basic maintenance technical concepts and parameters.
6. Basic troubleshooting and repair methods and techniques.
7. Machine elements and their applications, materials and tool theory.
8. Torquing

Industrial processes-100 credits/hours

The central content of the teaching:

1. Basic monitoring, control and regulation of industrial engineering processes and interpretation of process scheme.
2. Reliability and how the easier remedial maintenance impact the industrial engineering processes.
3. Safety and health at work and safety regulations.
4. Definition of quality and its meaning for industrial engineering processes and production results.
5. Where in industrial engineering processes as sampling is done and procedures for sampling.
6. Raw materials or materials' processing into finished products in the industrial engineering process.
7. Construction, characteristics, management and health risks of raw materials and finished products.
8. linking production equipment to production lines, who the different units are and what is happening in them.
9. Impact of industrial engineering processes on the environment. Measures to minimize environmental impact.

10. Communication and collaboration between different roles and functions in the industrial engineering process, such as personnel groups, suppliers and customers.
11. Simpler concepts in the subject area.

Production equipments-100 credits/hours

The central content of the teaching:

1. Work with and care of selected production equipment and peripherals, such as tools, machines, production modules and control equipment, in accordance with applicable safety regulations.
2. Function and construction of relevant production equipment and peripherals.
3. Simple functional control and measurements as well as some maintenance of production equipment and peripherals.
4. Simpler dimensioning and technical calculations.
5. Applications for relevant production equipment and peripherals.
6. Simpler concepts, methods and techniques for industrial production equipment and peripherals.
7. Simple technical description for production equipment and peripherals.
8. Material properties and the importance of the material for the function and quality of production equipment and peripherals and products.
9. Measurement and documentation of the quality of work performed.

Employed in the industry-100 credits/hours

The central content of the teaching:

1. Methods for working in and organizing projects.
2. Introduction to laws and other regulations regulating production, companies and the labour market, such as provisions on the working environment, employment protection and labour law, as well as environmental regulations and the Co-determination Act.
3. Preventive systematic work environment management.
4. The safety of production, such as safety around machines, handling chemicals, warm and hot objects.
5. First aid and CPR.

6. Forms of enterprise in industry and the conditions of entrepreneurship in terms of, for example, the economy, the market and staffing.

7. Production and society in collaboration, such as environmental impact and raw material resources, as well as the locality's dependence on the company.

8. factors that can influence the professional role and the development of industry from a regional, national and international perspective, such as new producers, raw material assets, technology development and product and material innovations.

9. Ideas and factors in history that have changed production and people's working conditions.

10. Factors that influence individuals' collaboration in working groups, conflict management and the importance of leadership for an effective working climate

Internal transportations-100 credits/hours

(Counterweight truck and overhead crane certification courses)

The central content of the teaching:

1. Operation of the selected transport equipment and handling of goods.

2. the structure, operation, stability and lifting capacity of the transport equipment and various terms.

3. Uses of transport equipment and relevant peripherals.

4. Environmental and safety regulations for handling different types of goods.

5. For the equipment relevant driving rules, symbols and signal schedules.

6. Functional control, supervision and daily maintenance of the transport equipment and related peripherals

7. Dimensioning and calculations of the load to which both the transport equipment and the goods are subjected during transport, storage and handling according to, for example, load tables and applicable regulations.

8. Simpler principles for handling goods, such as load balance, centre of gravity and risk elements.

9. Simpler principles for logistics of internal transport, such as transport efficiency.

Professional English-75 credits/hours

Orientation course, industry-specific English.
(No grades in this course, just pass/not-pass)

Digitalization-25 credits/hours

Orientation course

Excel, Word, Power Point, Sway, Teams.
(No grades in this course, just pass/not pass)

Skellefteå kommun,
Samhällsutveckling
Anders Norberg

Vedlegg 2: Kommunens refleksjoner etter en studiereise til Nevada i 2018 og oversikt over utlyste stillinger på fabrikken til Tesla/Panasonic.

Varför detta kompendium?

Under hösten 2017 och våren 2018 har det inte funnits så mycket uppgifter och detaljer om kompetensbehovet i Northvoltetableringen i Skellefteå, annat än att behovet är stort, mångfacetterat och kvalificerat. Därför har här underlag för en liknande nystartad fabrik tagits fram som referensmaterial; verksamheten på Teslas/Panasonics Gigafactory 1 som startade Li-Ion-batteriproduktion 2016.

Detta kompendium består av jobbannonser gällande arbete på Gigafactory 1, Sparks, Reno Nevada, som i en del är en vertikalt integrerad Li-Ion-batterifabrik av den typ Northvolt 1 i Skellefteå också planeras bli. Gigafactory 1 benämns ibland Panasonics anläggning men oftare som Teslas. Teslas montering av batteripack av olika slag (Powerwall och Powerpack) (och sammansättning av modell 3?) sker också i fabriken utifrån de batterier som Panasonic Energy North America, PENA, tillverkar (cylindriska batterier av klassisk typ, 18650, och det nya formatet 2170) i f n två linjer som båda startade produktion 2016).

Panasonic byggde upp och påbörjade sin verksamhet med japansk erfaren personal och experter (kring 700 personer), men amerikaniserar efterhand verksamheten i PENA, Panasonic Energy North America. Under överskådlig tid kommer nog många japaner att finnas kvar som arbetsledare och experter. Ett tecken på detta är utannonserade arbeten som t ex översättare och tolkar och önskemål om att vissa kategorier anställda ska kunna japanska.

Många funktioner kring fabriken som helhet verkar skötas av Teslas personal, vilket då inte syns i detta material som begränsar sig till PENAs verksamhet på Gigafactory för att bäst motsvara Northvolt.

På sistone under våren 2018 har det märkts att PENA verkar ha svårt att få tag i särskilt kategorierna *Machine Operator* och *Material Handler*, genom att man lagt ut sådan rekrytering på bemannings- och rekryteringsföretag, kanske av policyskäl, då dessa annonser ofta innehåller uttryck som ”no experience needed” ”signing bonus”, ”we will train you free of cost”, etc, och associerar gärna mera till Tesla än till Panasonic. ”Production Associate”, ”General Laborer” och xxxx

PENA har tillsammans med Truckee-Meadows Community College (TMCC) två kortare grundkurser (en vecka resp 6 veckor) för jobbsökande/nyanställda i Panasonic Preferred Pathway Programme, P3. http://www.tmcc.edu/applied-technologies/p3/ . Dessa kurser är avgiftsbelagda, men nu kan studerande tydligen ofta få kursavgifterna betalda.

PENA verkar bedriva mycket internutbildning i själva fabriken, dels p g a att man inte får tag i precis rätt personal, man måste introducera personal, och att verksamheten också snabbt kan förändras. Därför verkar utbildningspersonal av olika slag finnas även i skiftgång, troligtvis företrädesvis som performance support.

Annonserna har tagits fram genom att följa tjänsten indeed.com, men också från PENA https://www.panasonicnv.com/. Detta säger ingenting om volymer och ganska lite om

arbetsorganisation. Kategoriseringarna nedan är hemgjorda och motsvarar inte Panasonics organisation. Information har hittats som återspeglar denna har bara hittats i fragment.

Alla annonser har ungefär denna inledning, vilken klippts bort:

Panasonic Energy of North America (PENA) is collaborating with Tesla Motors, Inc. in a large-scale advanced battery manufacturing facility known as the Gigafactory near Reno, Nevada which is known for its quality of life and expansive outdoor adventures. Panasonic manufactures and supplies cylindrical lithium-ion cells for the world's leading electric vehicle manufacturer, Tesla Motors, Inc. Based on the battery demand from Tesla, the Gigafactory plans to produce cells which will double the world's current production.

Our mission at PENA is to make the vision of affordable Electric Vehicles a reality by production of the world's safest, highest-quality, and lowest-cost batteries. Through this effort we will create a clean energy society and our products will change society's use of and perceptions of electric power.

Alla annonser har ungefär denna eftertext, vilken klippts bort:

Supplemental Information
Panasonic is proud to be an Equal Opportunity/Affirmative Action employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, gender identity, sex, sexual orientation, national origin, disability status, protected veteran status, and any other characteristic protected by law or company policy. All qualified individuals are required to perform the essential functions of the job with or without reasonable accommodation. Pre-employment drug testing is required for safety sensitive positions or as may otherwise be required by contract or law. Due to the high volume of responses, we will only be able to respond to candidates of interest. All candidates must have valid authorization to work in the U.S. Thank you for your interest in Panasonic Corporation of North America.

Pre-employment drug testing is required. Due to the high volume of responses, we will only be able to respond to candidates of interest. All candidates must have valid authorization to work in the U.S. Thank you for your interest in Panasonic Energy of North America.

Utbildningskrav är givetvis amerikanska, men här nedan är en guide.

BSc – Bachelor of Science; ungefär högskoleingenjör (undergraduate degree),
MSc – Master of Science, snett under civilingenjörsnivån
Associate Degree /Two-year degree från Community College är ungefär YH-nivå.
High School Diploma motsvarar ungefär gymnasienivå, och
GED (General Education Development) är ett avklarat test som motsvarar High School Diploma.

Ordförklaringar: I annonserna förekommer många termer, förkortningar, uttryck, namn på standarder, metoder etc som det finns förklaring på i avsnittet ordförklaringar. Ibland har dessa svenska motsvarigheter, ibland inte. Avsnitt 8.

Produktionslayouter: Tre exempel på produktionslayout för Li-Ion-batterifabriker. Avsnitt 9

Preliminära reflektioner finns i ett avslutande avsnitt 10.

Innehåll

Ordningen på jobbannonserna under respektive kategori är den ordning i vilken de publicerats.

1. INGENJÖRSJOBB

(Se även Production-mgmt & arbetsledning)

1.1 Battery Engineer (Formation)

Job Purpose: Battery cell manufacturing process improvement for mass production lines.

Responsibilities Include:

Designs and develops Li-ion battery manufacturing processes by performing following duties:

- Conducts research and development work for battery cell formation and testing process to improve cell formation process on safety, quality and productivity with new and existing production lines.
- Analyzes and evaluate battery cell electrical performance data collected in laboratory experiments and pre-production operations to determine direct and interaction effects of the formation equipment and processes under evaluation.
- Analyzes operating procedures and functions of battery cell formation equipment and process to reduce time and cost of formation processes.
- Provides engineering support to battery cell formation team and cell assembly production team to resolve manufacturing process issues.
- Works closely with safety and quality control teams to improve battery cell formation process on safety and quality issues.
- Works closely with other team members to increase understanding of failure modes, performance and life expectancy of cell products.
- Applies principles and knowledge of chemical engineering to solve environmental problems.
- Other duties may be assigned.

Basic Qualifications:

- Bachelor's degree (B. S., M.S. in Chemical, Electrochemical Engineering, or related field) from four-year college or university.
- Experience including internship or curricular training in manufacturing environment, particularly with a lithium-ion battery cell formation and/or testing is preferred.
- Experience on battery cell formation process design and its influence on SEI analysis in laboratory is a plus.

Desired Qualifications:

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.

- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.

Mathematical Skills:

- Ability to comprehend and apply principles of advanced calculus, modern algebra, and advanced statistical theory.
- Ability to work with concepts such as limits, rings, quadratic and differential equations, and proofs of theorems.

Reasoning Ability:

- Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases.
- Ability to deal with a variety of abstract and concrete variables.

1.2 Battery Engineer (Assembly)

Responsibilities Include:
Designs and develops Li-ion battery manufacturing processes by performing following duties:

- Battery cell manufacturing process improvement for mass production lines
- Conducts research and development work for new and existing production lines to improve cell assembly process on safety, quality and productivity.
- Analyzes and evaluate cell physical data. This may include; dimensions of jelly roll, cell and cross-sectional dimensions. From this data evaluation is needed to determine direct and interaction effects of the machinery and processes.
- Line setup and evaluation of performance of manufacturing equipment.
- Analyzes operating procedures and functions of equipment and machinery to reduce time and cost of assembly manufacturing processes.
- Provides engineering support to cell assembly as well as electrodes production teams to resolve manufacturing process issues.
- Work closely with other team members to increase understanding of failure modes, performance and life expectancy of cell products.
- Collaborate with Supplier Quality team in their communication with material suppliers, related to the development and validation of detailed material specifications for new materials, and the resolution of any quality issues
- Applies principles and knowledge of chemical engineering to solve environmental problems.
- Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's degree (B. S. in Mechanical Engineering, Manufacturing Engineering, Industrial Engineering, Electrical Engineering, or related field) from four-year College or University.
- Experience including internship or curricular training in assembly manufacturing environment or lithium-ion battery cell assembly production is a plus.
- Experience on laboratory analysis using X-Ray, SEM, microscope, CMM or similar methods in lab is desired.
- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.

- Ability to effectively present information to top management, public groups, and/or boards of directors.

Desired Qualifications:

- Ability to comprehend and apply principles of advanced calculus, modern algebra, and advanced statistical theory. Also, the ability to work with concepts such as limits, rings, quadratic and differential equations, and proofs of theorems.
- Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Root cause, defect and fail analysis.
- Apply these evaluations to achieve our goal of zero defects.
- Process Engineering experience.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases.
- Ability to deal with a variety of abstract and concrete variables.

Physical Demands:
While performing the duties of this job, the employee is frequently required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment:
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently exposed to moving mechanical parts and risk of electrical shock. The employee is occasionally exposed to fumes or airborne particles and toxic or caustic chemicals. The noise level in the work environment is usually loud.

1.3 Quality Engineer

Responsibilities Include

- Establish quality control system in battery production process.
- Conducts management work for quality performance to maintain battery cell performance on safety and quality.
- Analyzes and evaluates process input/output data to reduce defects and improve battery performance.
- Provides support to cell manufacturing process to resolve production issues with quality. Provides support to customers to resolve claims on cell production quality issues.
- Monitors and controls production quality; implements appropriate actions under out of control situation.
- Other duties may be assigned

Basic Qualifications:

- Bachelor's degree (B. S. in Mechanical Engineering, Chemical Engineering, Materials Engineering, or related field) from four-year College or university.
- Experience including quality control of battery or electronic devices.
- Quality assurance work is desired.
- Familiarity with quality management tools (control chart, FTA, FMEA, etc.) and MS Office (Word, Excel and PowerPoint).
- Strong PC skills (Microsoft Office).
- Problem solving skills and attention to details.

Desired Qualifications:

- 3+ years of quality engineering background is preferred
- Experience using ISO 9001 quality management system auditing
- Experience with laboratory analysis using X-Ray, SEM, ICP, or similar tools in the lab
- A background as a quality engineer in high-volume manufacturing is strongly desired
- Extensive data analysis experience such as statistical process control of production data
- Experience in defect reduction of high-volume manufacturing products

1.4 Production Engineer (2017)

SUMMARY

Designs and directs installation and after support of mechanical or electromechanical production equipment by performing the following duties.

ESSENTIAL DUTIES AND RESPONSIBILITIES

include the following. Other duties may be assigned.

- Analyzes product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determines feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Provides technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Confers with research personnel to clarify or resolve problems and develops design.
- Prepares or directs preparation of product or system layout and detailed drawings and schematics.
- Directs and coordinates manufacturing or building of prototype product or system.
- Compiles and analyzes operational, test, and research data to establish performance standards for newly designed or modified equipment or product.
- Plans and develops experimental test programs. Analyzes test data and reports to determine if design meets functional and performance specifications.
- Confers with research and other engineering personnel and prepares design modifications as required.
- Evaluates engineering test results for possible application to developments of systems or other uses.

EDUCATION & QUALLIFICATIONS:

- Bachelor's degree (B. S. in Mechanical Engineering/Electrical Engineering, or closely related field) from four-year college or university; with five or more years related experience and/or training; or equivalent combination of education and experience.
- Skill and Know-how regarding Production engineering by experience in US company
- Understand electrical hardware
- Understand drawings, Sequence Control and Software Design
- Skill and Know-how regarding start-up of building, power equipment and manufacturing facilities through experience in a US company.
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories)
- Ability to cooperate and work with related departments including overseas, Japan
- Flexibility to solve the issues without fixed thinking.
- Utilize strong computer skills in Word, Excel and PowerPoint to put together proposals, project planning and status updates and executive presentations.

LANGUAGE SKILLS

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.

MATHEMATICAL SKILLS

Ability to comprehend and apply principles of quality control tool such as Control chart, FTA, FMEA, Why-why analysis.

REASONING ABILITY

- Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases.
- Ability to deal with a variety of abstract and concrete variables.

Physical Demands

Walking, Climbing Stairs, Lifting, Pushing, Pulling, Sitting, Writing, Typing, Crouching, Kneeling, Standing. Minimum lifting of 50 pounds. Must Wear a Hard Hat, Safety Glasses, Safety Vest, Steel Toe or Composite Toe Shoes or Boots.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

1.5 Production Engineer - Stamping Press

Job Purpose:
Designs and directs installation of mechanical or electromechanical production equipment with a focus in stamping press systems.

Responsibilities Include:

- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Conferring with research personnel to clarify or resolve problems and develops design.
- Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype product or system.
- Compiling and analyzing operational, test, and research data to establish performance standards for newly designed or modified equipment or product.
- Planning and developing experimental test programs.
- Analyzing test data and reporting to determine if design meets functional and performance specifications.
- Conferring with research and other engineering personnel and prepares design modifications as required.
- Evaluating engineering test results for possible application to developments of systems or other uses.

Basic Qualifications:

- To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.
- Extensive background with stamping press machines, particularly those used in manufacturing, is a must
- Bachelor's Degree in Mechanical Engineering or similar
- Skill and Know-how regarding production engineering by experience in US company.
- Understands mechanical drawings, CAD drawings, etc.
- Skill and Know-how regarding start-up of building, power equipment and manufacturing facilities through experience in a US company.
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories)
- Ability to cooperate and work with related departments

- Flexibility to solve the issues without fixed thinking.
- Strong computer skills in Word, Excel and PowerPoint to put together proposals, project planning and status updates and executive presentations.

1.6 Project Engineer – Electrical

This position offers you an opportunity to expand your skills and experience in the critical infastructure and fast-paced facilities operations. Our ideal candidate is an experience hands-on project engineer who understands the importance of safely finishing a project on time and under budget while utilizing and contributing his/her expertise the successful completion of the project.

Responsibilities Include

- Communicate project scope, design, and deliverable requirements to contractors, project managers, engineers, inspectors, and other involved parties.
- Coordinate closely with all parties mentioned above regarding any changes in scope, design, or construction method.
- Track and report on project progress, deliverables, delays, impacts, or improvements.
- Perform daily walks in field.
- Attend meetings, take detailed notes, and report to all interested parties.
- Distinguish and identify concerns/issues, then attain solutions.
- Liaise with contractors, project managers, engineers, inspectors, and other involved parties.
- Budget, employees direct and indirect and other resources managed.
- Work under the direct command and management of a facility construction supervisor.
- Support other engineers and agents in the team and contractors involved in the project.

Basic Qualifications

- Bachelor's degree in electrical engineering, industrial power distributions/supplies, construction management, or related field (or equivalent work experience).
- Strong analytical and project management skills. Strong written and verbal communication skills.
- Excellent computer skills with proficiency in Microsoft Office and CAD.

Desired Qualifications:

- 3+ years of experience in facilities engineering or construction engineering preferred Being open to accept challenges and try to overcome them – either individually or collectively.
- Focus to achieve the organization's goals while developing individual skills and gaining knowledge.
- Ability to collaborate with others for building successful projects.

Physical Demands:

Ability to walk or manuever approximately 3 miles per day in the factory (no construction / production activities are included in the position) Willingness to work in a construction environment and wear appropriate PPE (no construction / production activities are included in the position) Ability to follow safety requirements and procedure provided by the company and its agents.

1.7 Production Electrical Engineer (2017)

The Production Electrical Engineer designs and directs installation of mechanical or electromechanical production equipment by performing duties which include, but are not limited to:

- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning
- Conferring with research personnel to clarify or resolve problems and developing design
- Preparing or directing preparation of product or system layout and detailed drawings and schematics
- Directing and coordinating manufacturing or building of prototype product or system
- Compiling and analyzing operational, test, and research data to establish performance standards for newly designed or modified equipment or product
- Planning and developing experimental test programs
- Analyzing test data and reports to determine if design meets functional and performance specifications
- Conferring with research and other engineering personnel and preparing design modifications as required
- Evaluating engineering test results for possible application to developments of systems or other uses
- Familiar with wiring, cabling size, terminations, and load/temperature requirements
- Familiar with industrial machinery design and related NFPA codes such as 70 and 79 (and related UL standards for industrial machinery)
- Knowledgeable regarding electrical requirements in hazardous locations (Class I, Div 2)
- Experience with 480 V panel installations
- Control system troubleshooting
- PLC programming experience (Ladder Logic)
- Control wiring design
- Electrical troubleshooting and diagnostics
- Experience with energy usage and optimization

PREFERRED QUALIFICATIONS:

- Bachelor's degree in mechanical or electrical engineering or closely related field from four-year college of university
- Five or more years related experience and/or training
- Skill and know-how regarding production engineering by experience in United States company
- Understanding of electrical hardware
- Understands drawings, sequence control, and software design

- Skill and know-how regarding start-up of building, power equipment, and manufacturing facilities through experience in a United States company
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories)
- Ability to cooperate and work with related departments including overseas, Japan
- Utilize strong computer skills in Word, Excel, and PowerPoint to put together proposals, project planning, and status updates and executive presentations
- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community
- Ability to effectively present information to top management
- Ability to apply advanced mathematical concepts such as exponents, logarithms, quadratic equations, and permutations
- Ability to apply mathematical operations to such tasks as frequency distribution, determination of test reliability and validity, analysis of variance, correlation techniques, sampling theory, and factor analysis
- Ability to define problems, collect data, establish facts, and draw valid conclusions
- Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables

1.8 Production Engineer - Vision Systems

Job Purpose:
Designs and directs installation of and work on Panasonic's manufacturing vision devices. This includes cameras, sensors, and other machine vision systems.

Responsibilities Include:

- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Conferring with research personnel to clarify or resolve problems and develops design.
- Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype product or system.
- Compiling and analyzing operational, test, and research data to establish performance standards for newly designed or modified equipment or product.
- Planning and developing experimental test programs.
- Analyzing test data and reports to determine if design meets functional and performance specifications.
- Conferring with research and other engineering personnel and prepares design modifications as required.
- Evaluating engineering test results for possible application to developments of systems or other uses.

Basic Qualifications:

- Extensive experience with manufacturing image vision systems such as Keyence, Banner, or Cognex is a must
- Bachelor's Degree in Electrical Engineering or related field
- Skill and Know-how regarding production engineering by experience in US company
- Understands electrical hardware Understands drawings, sequence control and software design
- Skill and Know-how regarding start-up of building, power equipment and manufacturing facilities through experience in a US company.
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories)
- Ability to cooperate and work with related departments including overseas, Japan Flexibility to solve the issues without fixed thinking.

- Strong computer skills in Word, Excel and PowerPoint to put together proposals, project planning and status updates and executive presentations.

Desired Qualifications:

- Familiarity with wiring/cabling size/terminations and load/temperature requirements Familiarity with industrial machinery design & related NFPA codes: 70 79 (and related UL standards for industrial machinery)
- Knowledge regarding electrical requirements in hazardous locations (Class I, Div 2)
- Experience with 480 V panel installations Control system troubleshooting PLC Programming experience (Ladder Logic)
- Control wiring design
- Electrical troubleshooting & diagnostics Experience with energy usage/optimization

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed above are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Language Skills:

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community. Ability to effectively present information to top management.

Mathematical Skills:

- Ability to apply advanced mathematical concepts such as exponents, logarithms, quadratic equations, and permutations.
- Ability to apply mathematical operations to such tasks as frequency distribution, determination of test reliability and validity, analysis of variance, correlation techniques, sampling theory, and factor analysis.

Reasoning Ability:

- Ability to define problems, collect data, establish facts, and draw valid conclusions.
- Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

Physical Demands:

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to talk or hear. The employee is occasionally required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; and stoop, kneel, crouch, or crawl. The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment:
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

1.9 Battery Engineer (Electrode)

Responsibilities Include:

- Battery cell manufacturing process improvement for mass production lines.
- Conducts development work for new and existing production lines to improve electrode manufacturing process on safety, quality, and productivity.
- Analyzes and evaluates electrode physical data and cell electrochemical data to determine direct and interaction effects of the materials and processes under evaluation based on data collected in laboratory experiments and pilot production operations.
- Analyzes operating procedures and functions of equipment and machinery to reduce time and cost of electrode manufacturing processes.
- Provides engineering support to electrode as well as cell production teams to resolve manufacturing process issues.
- Work closely with other team members to increase understanding of failure modes, performance, and life expectancy of cell products.
- Collaborate with Supplier Quality team in their communication with material suppliers, related to the development and validation of detailed material specifications for new materials, and the resolution of any quality issues.
- Apply principles and knowledge of chemical engineering to solve environmental problems. Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's degree (B. S. in Materials Engineering, Chemical Engineering, or related field) from four-year College or University.
- Experience including internships or curricular training in a manufacturing environment or lithium-ion battery production is a plus.
- Experience in laboratory analysis using X-Ray, SEM, microscope, CMM or similar methods in the lab is desired.
- Advanced proficiency in Microsoft Office Suite (Word, Excel, PowerPoint, etc).
- Strong verbal and written communication skills to facilitate successful interactions with team members and management.

Desired Qualifications:

- Experience with root cause analysis, defect reduction, and failure analysis. We must apply these evaluations to achieve our goal of zero defects.

- 3+ years of manufacturing engineering or process engineering experience is preferred.

1.10 Controls Engineer

Responsibilities Include:

- Programming, installing, and troubleshooting image vision systems such as Keyence and Cognex within Panasonic's battery manufacturing processes.
- Programming, installing, and troubleshooting PLC systems such as Mitsubishi and Omron within Panasonic's battery manufacturing processes.
- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Conferring with research personnel to clarify or resolve problems and develops design. Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype products or systems.
- Planning and developing experimental test programs.
- Analyzing test data and reports to determine if design meets functional and performance specifications.
- Evaluating engineering test results for possible application to developments of systems or other uses.
- Other duties may be assigned.

Basic Qualifications:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's Degree in Electrical Engineering, Mechanical Engineering, or related field.
- Experience programming, installing, and troubleshooting manufacturing image vision systems such as Keyence and Cognex.
- Experience programming, installing, and troubleshooting PLC systems such as Mitsubishi and Omron.

- Background working in a high-volume manufacturing environment.
- Understanding of electrical hardware, drawings, sequence control and software design.
- Ability to cooperate and work with related departments including overseas.
- Flexibility to solve issues with first-principles thinking.
- Strong computer skills with Microsoft Word, Excel and PowerPoint.

Desired Qualifications:

- Familiarity with wiring/cabling size/terminations and load/temperature requirements.
- Familiarity with industrial machinery design & related NFPA codes: 70 79 (and related UL standards for industrial machinery) Knowledge regarding electrical requirements in hazardous locations (Class I, Div 2).
- Experience with 480 V panel installations.
- Control wiring design.
- Experience with energy usage/optimization.
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories).

1.11 SAP Engineer

SAP Engineer (FI/CO)

Job Purpose

The SAP Engineer will foster improvement of current business practices as well as leverage their own FICO experiences to facilitate IT designs and concepts into actual Production usage, functional and technical guidance of business requirements using current IT architecture, and support the system requirements as PENA continues to grow. You will be the key contact for FICO related technical questions and can provide additional recommendations on top of the original business inquiries; think outside the box! The ideal candidate will report directly to our PENA IT department but will work closely with our business users to support all facet of daily operations to minimize SAP issues and maximize SAP experience.

Primary Role and Responsibilities

IT Project Lead:

- Collaborate with business managers and end-users for the effective use of IT.
- Promote ERP and MES (Manufacturing Execution System) implementations.
- Promote the usage and expansion of IT services, collaborate with global and local IT organizations.

IT Service Delivery:

- Manage the continuous optimizations of IT services.
- Continuously promote the high availability of service for critical customer applications and services.
- Follow and promote PENA and AIS Domain (Japan HQ) policies and procedures.
- Skilled in the delivery of IT services through performance metrics and proven IT methodologies.
- Evaluate service delivery performance and take corrective actions with appropriate IT staff.
- Make recommendations for ongoing process improvement.

Finance Scheme Setup with integration of SCM Business Relationships:

- Develop the Finance scheme between TESLA, Suppliers, and PENA.
- Maintaining the relationship between PENA IT and PENA business users.
- Develop returns on investment analysis scenarios for new projects or new services.
- Develops and maintains the customer IT service offering.
- Develop support evidence for SOX Compliance audit.

Education and Experience

- Bachelor degree in business administration, technology management or a related degree
- Minimum 5 years of experience in managing and delivering IT services in assembly and production manufacturing industry *international desirable
- Experience in managing complex project teams
- Experience in business process re-engineering – application, infrastructure and network solutions
- Experience in the delivery of IT Services:
    - Finance – SAP FI-CO
    - General Ledger (GL)
    - AP & AR
    - Asset Accounting
    - Cost Center
    - ARIBA Desirable,
    - MES factory-oriented applications
    - Desirable, Infrastructure services
- End User Services
- Experience in managing budgets and financial expectations (ROI analysis)
- Junior level MM/PP

Qualifications

- Customer focused and business sensitive attitude for applying effective manufacturing IT solutions.
- Promote high quality IT solutions SAP ERP, MES (Manufacturing Execution System).
- Promote creative and innovative IT services.
- Identify, research, solve and prevent service quality problems.

Ability to be flexible with Financial period close and ad hoc issues.

1.12 ASRS Engineer

Responsibilities include

- Assist in the installation and commissioning of Panasonic's automated storage and retrieval systems within the Gigafactory.
- Coordinating and scheduling work among multiple contractors and companies. Interfacing with Japanese partners to determine layout, assess build progress, and address technical issues.
- Coordinating material movement processes within the lithium-ion battery manufacturing process.
- Provide production support of manufacturing operations and assist with equipment troubleshooting.
- Conduct process optimization and improvements.
- Coordinate equipment maintenance and necessary replacement of parts.
- Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's Degree in a technical discipline such as Mechanical Engineering, Electrical Engineering, Manufacturing Engineering, Industrial Engineering, or similar.
- Must be able to speak fluent Japanese.
- Experience with the installation and commissioning of automated storage and retrieval systems.
- Background working in a high-volume manufacturing environment.
- Experience working with teams that include multiple companies such as contractors and international partners.
- Understanding of material movement and process flow within a manufacturing environment.
- Experience managing high pace and high stress operations.

Desired Qualifications:

- Japanese JLPT N3 or higher certification.

Software programming or PLC experience is highly desired.

1.13 Top Cap Engineer

Responsibilities Include:

- Being part of Panasonic's top cap production process. The top cap group is responsible for the metal forming, stamping, and pressing that is required to manufacture the top cap portion of Panasonic's cylindrical lithium-ion batteries.
- Working alone or with engineering team members to complete projects to both improve processes in existing production lines and install/commission new production capacity.
- Supporting engineering supervisors to ensure successful Gigafactory engineering operations.
- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype products or systems.
- Planning and developing experimental test programs.
- Analyzing test data and reporting to determine if design meets functional and performance specifications.
- Evaluating engineering test results for possible application to developments of systems or other uses.
- Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's Degree in Metallurgical Engineering, Mechanical Engineering, or related field.
- Previous work with manufacturing stamping press and automation systems is strongly desired.
- Experience utilizing CAD software such as Solidworks.
- Experience working with hydraulic and pneumatic press systems.
- Background working in a high-volume manufacturing environment.
- Advanced proficiency in Microsoft Office Suite (Word, Excel, PowerPoint, etc).

- Strong verbal and written communication skills to facilitate successful interactions with team members and management.

Desired Qualifications:

- Knowledge of manufacturing safety regulations.
- 3+ years of engineering experience in a manufacturing/production environment is strongly preferred.

1.14 Lead Tool Install Engineer (Electrode)

Responsibilities Include:

- Support the Production Engineering Team Supervisor and Management in coordinating the work of the Production Engineering Team members.
- Responsible for proper install and commissioning of production equipment and upgrades.
- Track all timelines and budget associated with equipment installation
- Interface with design engineers and technical advisors to coordinate design and install of production lines
- Assist supervisor in tracking and reporting on all projects team members are working on.
- Support the production and engineering activities of the company.
- Mentor other employees.
- Interface with contractors and vendors on work projects.
- Provide leadership and teamwork for the engineering team.
- Manage team member conflict resolution in conjunction with Engineering Supervisor.
- Assist in yearly reviews and merit adjustments in conjunction with Engineering Supervisor.
- Assist in budgeting and cost analysis with regards to projects and personnel.
- Some overseas travel may be required.

Basic Qualifications:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's degree (B.S. in Civil Engineering or related field) from four-year College or University.
- 2+ years of project management experience in a manufacturing environment.
- Experience working in multi-national environments.
- Strong Microsoft office skills (Excel, Word, PowerPoint)
- Experience with budget analysis and cost assessments.

1.15 Process Cleanliness Engineer

Responsibilities Include:

- Manage and support the process cleanliness procedures within Panasonic's lithium-ion battery production lines.
- Utilize laboratory instruments such as XRF (EA8000), SEM-EDS, FTIR, and 2D/3D X-Ray to analyze quality control samples and particles.
- Work alongside a team of technicians to ensure any contaminations or quality control issues are addressed and corrective action is taken.
- Develop proposals to improve production process and procedures when cleanliness issues are encountered.
- Create reports to present materials analysis data to management and other production team members.
- Analyze and evaluate process input/output data to reduce defects and improve battery performance.
- Other duties may be assigned

Basic Qualifications:

- Bachelor's degree (B.S. in Chemical Engineering, Materials Engineering, or related field) from a four-year College or university.
- Strong experience with analytical materials analysis instrumentation including but not limited to: XRF, SEM-EDS, FTIR, and 2D/3D X-Ray.
- Familiarity with quality management tools (control chart, FTA, FMEA, etc.).
- Excellent Microsoft Office proficiency (Excel, Word, PowerPoint, Outlook).
- Problem solving skills and strong attention to details.

Desired Qualifications:

- 3+ years of materials analysis and analytical chemistry experience strongly preferred.
- Experience in a high-volume manufacturing environment is highly desired.
- Data analysis experience such as statistical process control of production data.

2 LOGISTIK, PRODUKTION, UNDERHÅLL

2.1 Material Planner

Job Purpose:

The Material Planner's role is to ensure that the supply of materials meet the production schedule and minimum stock levels to ensure operational and production continuity. The planner must be able to deliver efficient, effective and flexible solutions to meet production requirements. Maintaining strong relationships both internally and externally to ensure supply of materials meets requirements is essential. This team member will work under minimal supervision, reviewed by Management. Decisions and results have direct impact on facility operations, strong attention to detail is a must.

Responsibilities Include:

- Schedule the supply of materials/components to meet production requirements and minimum safety stock levels
- Plan, develop, implement and evaluate processes for material delivery
- Assess volume requirements against planning assumptions
- Day-to-day order management and management of deliveries
- Understand and manage risks to minimize impact on production schedule
- Take follow up actions in relation to material shortages that affect production Implement all processes to agreed standards and targets and support continuous improvement initiatives and identify areas of improvement
- Utilize any Material Requirements Planning system (MRP) or IT system that is in place and ensure that data is accurate and up to date and resolve any issues as required
- Monitor the integrity of Bill of Materials (BOM) and manage inventory accuracy
- Monitor inventory levels against agreed target levels
-

Basic Qualifications:

- Minimum of 1 year experience in Production or Material Planning.
- Bachelor's degree in Business, SCM, or Operations preferred.
- Proficient in Microsoft Suite
- SAP experience a plus.

2.2 Material Handler

Responsibilities Include

- Perform daily operational checks on mobile equipment (condition of the forks, lift mechanisms, brakes, wheels, control handles for wear and tear, fluid leaks, damage, etc.)
- Recording and inspection on equipment including, cleaning, checking and adding fluids as needed.
- Receipt and transport of raw materials using mobile equipment of various types (manual pallet jacks, ride-on pallet jacks, lift trucks, etc.)
- Movement and transportation of in process product throughout the production area.
- Ability to accurately recognize and distinguish between part numbers and lot numbers of greater than 10 characters.
- Problem solving trouble shooting skills related to equipment and material issues.
- Communicate with co-workers the status of the current material or product at hand, damaged packaging, verbally either directly or through a two-way radio.
- Provide appropriate documentation i.e. delivery orders, lot tracking sheets, quality deviation sheets, quality specifications and attributes, to downstream customer.
- Must adhere to company rules and policy.
- Must be able to work in a team environment.
- Must be willing to perform duties at a higher or lower level as assigned.

Basic Qualifications

- High School Diploma or GED required.
- Experience in material handling, warehouse operations preferred
- Must be able to read and understand English instructions, written and verbally.

Desired Qualifications

- Must have a safety conscientious attitude.
- Able to use a manual pallet jack, motorized pallet jack or lift truck. Familiarity with MES, LOTO, FIFO, Lot numbers.
- Ability to perform basic mathematical calculations and accurate counting of raw materials and product in an active environment.
- Familiar with computer terminals, Operator Interface Terminal, touch screens, RF scanners.

Physical Demands

Must wear PPE including, safety shoes, clean suit, dust mask, respirator or PAPR, gloves, safety glasses/safety goggles, hair net. Ability to climb stairs, climb ladders, reach, squat, tolerate prolonged standing/walking, balance, bend from trunk, crawl, kneel, push and pull objects. Must be able to pull/push pallets weighing up to 1700 lbs. on a pallet jack. Must be able to work

up to 12-hour shifts. Constant use of a safety blade. Must be able to manage time.

Panasonic's egen introduktionsutbildning för detta http://www.tmcc.edu/applied-technologies/p3/

2.3 Entry Level Operator

Job Purpose
Working safely is number one priority, Individual must work and comply to safety working standards and practice. Complies with all environmental safe practices and regulations. Reads all SDS' and possesses thorough knowledge of all oil and chemical labeling and storage requirements.

Primary Role and Responsibilities

- Delivery of materials to production floor.
- Ability to analyze, estimate workload and perform multi-tasking.
- Ability to use material bar code scanners Understanding of First in, First out (FIFO)
- Be able to follow work instructions and Standard Operating Procedures (SOP).
- Prepares documentation as required.
- Maintains a clean and safe work area 5s.
- Understands department workflow, processes & detailed oriented.
- Excellent communication with co-workers verbally and writing skills.
- Must adhere to company rules and policy.

Education and Experience

High School Diploma or GED required. Previous experience in manufacturing environment, automation or assembly is a plus but not required. Basic skills in Microsoft Office (Excel, Word, PowerPoint, Outlook)

Physical Demands

Must wear PPE including, safety shoes, clean suit, dust mask or respirator, gloves, safety glasses/safety goggles, hair net etc. Must be able to lift 50lb ingredient bags. Ability to climb stairs, climb ladders, reach, squat, tolerate prolonged standing/walking, balance, bend from trunk, crawl, kneel, push and pull objects. Must be able to lift 50lb ingredient buckets. Must be able to work up to 12- hour shifts.

Work Environment

Must be able to work in a construction environment. Exposure to heat, dust, and noisy conditions.

Language Skills

Must be able to read and understand English instructions, written and verbally.

2.4 Machine Operator

Job Purpose
In this role, you will be required to maintain active communication with co-workers and Maintenance Technicians for quality and production related issues. When necessary, elevate these issues to management or the appropriate personnel. Maintain the shift logs and QC records for the assigned areas.

Individual must work and comply to safety working standards, practice and all environmental regulations. Must adhere to all company rules and policies.

Primary Role and Responsibilities

When assigned to the Operator position:

- Has the authority to stop the process to avoid making sub-standard product.
- Reads all SDS' and possesses thorough knowledge of all oil and chemical labeling and storage requirements. Operates and starts- up the machines
- Ability to identify problems and minor troubleshooting
- Delivery of materials to production floor.
- Ability to analyze, estimate workload and perform multi-tasking.
- Assist Maintenance Technicians in preventative maintenance procedures such as lubricating machinery
- Monitors processes and performs continuous image inspections and visual quality checks of the products to ensure acceptance standards are met.
- Basic skills in Microsoft Office (Excel, Word, PowerPoint).
- Ability to use material bar code scanners
- Understanding of First in, First out (FIFO)
- Be-able to follow work instructions and Standard Operating Procedures (SOP). Prepares documentation as required.
- Maintains a clean and safe work area 5s.
- Understands department workflow, processes & detailed oriented.
- Excellent communication with co-workers both verbally and with good written skills.

Qualifications
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/ or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Education/ Experience
High School Diploma or GED (General Education Development) required.

Physical Demands
The physical demands described are representative of those that must be met by an employee to successfully perform the essential functions of this job.

While performing the duties of this job, the employee is regularly required to do the following: stand and walk for extended amounts of time; use hands to handle or feel objects, tools, or controls; reach with hands and arms; talk and hear. The employee is occasionally required to climb or balance. The employee must regularly lift and/ or move anywhere from 25 pounds to 100 pounds. Specific vision abilities required by this job include close vision, color vision, peripheral vision, depth perception, and the ability to adjust focus. Must be able to work up to 12- hour shifts Required to wear PPE (personal protective equipment) such as but not limited to; hard hat, respirator, gloves, eye protection, steel toe boots, etc.
Work Environment

Must be able to work in a construction environment. Exposure to heat, dust, and noisy conditions. Must be able to work in a clean room environment. Exposure to heat, dust, and noisy conditions.

Language Skills

- Ability to read and comprehend simple instructions, short correspondence, and memos.
- Ability to write simple correspondence.
- Ability to effectively present information in one-on-one and small group situations to customers, clients, and other employees of the organization.

Mathematical Skills

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Work within the Metric and Standard systems of measurement.

Panasonic's egen introduktionsutbildning för detta http://www.tmcc.edu/applied-technologies/p3/

2.5 Cell Inspection Technician

SUMMARY/ ESSENTIAL FUNCTIONS

- Conduct disassembly (break down) analysis of rejected Li-ion cells while adhering to safety regulations in a manufacturing and laboratory environment.
- Collect data to assist in root cause analysis using analytical equipment in quality control labs (microscope, SEM/EDAX, CT).
- Summarize and communicate data and results from analytical equipment and other investigations.
- Participate and provide feedback of results to production and quality control teams. Adhere to inspection and disassembly Standard Operation Procedures (SOPs) for common action items.
- Organization, inventory, cleanliness, and general upkeep of work space and laboratory. Follow principles and knowledge of safety and environment protection in production.
- Ability to work in a collaborative environment.
- Other duties may be assigned.

EDUCATION, EXPERIENCE, & QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Associate degree in General Engineering or related field from two-year College.
- Two years similar experience in a manufacturing environment or laboratory setting; or equivalent combination of education and experience.
- Experience with analytical equipment (e.g. SEM/EDAX) is a plus.

REASONING ABILITY

- Ability to apply basic principles of logical or scientific thinking to production and practical problems.
- Ability to utilize nonverbal symbolism (formulas, scientific equations, graphs, etc.,) in work.
-

MATHEMATIC SKILLS

- Ability to comprehend and apply principles of basic engineering mathematics.

- Understanding basic statistical principles is a plus.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to stand; walk (roughly 5 miles per day); sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

2.6 Process Inspection Technician

Summary

Conducts and implements quality control for Li-ion battery manufacturing processes by performing following duties: Conducts incoming materials quality control in the warehouse for cell production

Job Duties:

- Helping establish quality control system in materials warehouse of battery production.
- Conducts inspection work for incoming materials including cell parts, battery active materials, and chemical materials for battery safety and performance.
- Helping analysis and evaluation of materials input/output data to reduce defects and improve battery performance.
- Provides support to cell manufacturing process auditing on materials to assure production quality.
- Other duties may be assigned.

Qualifications

Education and Experience:

- High school or junior college graduate.
- Familiar with quality management tools (control chart, FTA, FMEA, etc.) and Microsoft Word, Excel, PowerPoint etc.
- Practical experience with materials analysis, testing and chemical analysis equipment is desired.

2.7 Maintenance Technician

Summary:
The Maintenance Technician maintains the production machinery in proper operating order through preventative maintenance, troubleshooting, repair, and improvement. Will also be required to perform the functions of an operator.

Essential Duties and Responsibilities:
Follows all company and departmental policies and procedures.

Must be able to maintain active communication with management and other employees about all job-related concerns, and informs the Supervisor when problems occur.

Comply with safety regulations and maintain clean and orderly work areas.

Performs preventative maintenance procedures:

- Checks settings, gauge readings, sensors, etc. regularly in-order to keep machines operating at proper specifications.
- Perform regular preventive maintenance on machines according to documented requirements.
- Makes continuing visual and audible observations of the machines in-order to detect any abnormalities.
- Tightens bolts and inspects belts and chains for wear and tear and for proper tensions.
- Perform simple machinist duties and responsibilities such as periodic cleaning and lubrication of machines, change oil and swap out parts.
- Troubleshoots problems with machine operation: Confers with machine operators to determine the nature of the problem. Inspects the external parts of the machine for any jams, breakage, abnormal vibrations, etc. that may be causing the problem.
- Inspects the internal components of the machine by the disassembly of certain machinery parts.
- Examines the form, texture, and dimensions of the machine parts to detect wear and/or imperfections.
- Perform mechanic skills including, but not limited to, mechanical, pneumatic, hydraulic, troubleshooting and repair of production machines, and basic understanding of electrical.
- Restores machines to correct operating function: Makes the needed mechanical and pneumatic adjustments.
- Diagnose problems, replace or repair parts, test and perform any necessary adjustments. Use a variety of hand and power tools, electric meters and material handling equipment in performing duties.
- Detect faulty operations, defective material and report those and any unusual situations to proper supervision.
- Analyzes the down time and quality deficiencies for the line and reports any information, along with suggestions for improvement, to the Supervisor and the appropriate management personnel.

- Makes suggestions for and helps develop and implement modifications to the machines and process in-order to help increase the efficiency and production of the department.
- Instructs operators on how to complete minor repairs and adjustments to the machines.
- Assists with training of other Maintenance Technicians as appropriate.
- Maintains complete and accurate records of all work done on the equipment and machines.

Supervisory Responsibilities:
None

Qualification Requirements:
To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required.

Education/ Experience
High School Diploma or General Education Degree (GED) and two years technical training or two years related work experience or an equivalent combination of technical training and experience.

Physical Demands :
While performing the duties of this job, the employee is frequently required to stand; walk; use hands to handle or feel objects, tools, or controls; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; talk and hear. The employee is occasionally required to sit

Employee must be able to work 12hour shifts and is required to wear PPE (personal protective equipment) such as but not limited to: hard hat, respirator, gloves, eye protection, steel toe boots, etc.

The employee must frequently lift and/ or move up to 25 pounds and occasionally lift and/ or move up to 100 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and the ability to adjust focus.

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Language Skills:
Ability to read and interpret documents such as safety rules, operating and maintenance instructions, and procedure manuals. Ability to write routine reports and correspondence as well as speak effectively with vendors or employees of organization.

Mathematical Skills:
Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to draw and interpret bar graphs.

Work Environment:

Must be able to work in a construction environment. Exposure to heat, dust, and noisy conditions and must be able to work in clean room environment. PPE (Personal Protective Equipment) is required to be worn while in the Production areas.

2.8 Facilities Maintenance Technician

Summary/Objective

PENA is looking to fill the position of Facilities Maintenance Technician.The main responsibility for this position is to ensure that the condition of our manufacturing areas meets or exceeds the standards required to create our lithium-ion cells.

Essential Functions

- Must be proficient in at least one mechanical/technical construction trade: Electrical, Plumbing and Pipefitting, HVAC Mechanic highly preferred.
- Using hand-held measuring devices, take readings for dew point, temperature, relative humidity, air flow, ampacity, pressure, and particulates.
- Must possess proficient skill with Microsoft Office Suite (Word, Excel, PowerPoint, Outlook).
- First Responder. Be able to move rapidly through the factory to any of the manufacturing areas that may require a maintenance response.
- Be able to quickly assess a utility outage and take corrective measures needed to rectify situation.
- Utilities include

Compressed Air	Electrical
High Pressure Compressed Air	Exhaust
Dry Air	Dust collection
Process Vacuum	Nitrogen
Deionized water,	Process Cooling Water
Hot Reverse Osmosis Water	nMP and electrolyte

- Be able to read and edit blueprints.
- Be able to draft, approve, and follow
- Maintenance Operating Procedures (MOP)
- Perform mechanic skills including, but not limited to, mechanical, electrical, pneumatic, hydraulic, troubleshooting and repair of production machines.
- Read and interpret equipment manuals and work orders to perform required maintenance and service.
- Manage vendors and contractors and ensure they adhere to work rules set forth by PENA.
- Perform regular preventive maintenance on machines, equipment and plant facilities.

- Perform a variety of plumbing maintenance and carpentry functions.
- Use a variety of hand and power tools, electric meters and material handling equipment in performing duties.
- Detect faulty operations, defective material and report those and any unusual situations to proper supervision.
- Comply with safety regulations and maintain clean and orderly work areas.

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. While performing the duties of this job, the employee is regularly required to:

- Speak clearly in loud areas.
- This position is very active and requires standing, walking, bending, kneeling, stooping, crouching, crawling, and climbing all day.
- The employee must frequently lift and/or move items over 50 pounds.
- Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception and ability to adjust focus.
- Be able to hear, see, and smell to correctly detect issues with manufacturing equipment.
- Be capable of walking several miles a day and able to climb ladders, stairs, access ladders, and gangways to gain access to utility areas.

Required Education and Experience

- High school diploma/GED and completion of a craft apprenticeship, or an equivalent number of years of education and production maintenance experience preferred.
- 2+ years of maintenance experience preferred; expecting strong pneumatic, mechanical and industrial skills with some electrical, plumbing, and HVAC experience.
- Must be able to speak and write in English.
- Trade school/vocational graduate preferred

2.9 Help Desk Technician (Contractor)

PRIMARY RESPONSIBILITIES:

Help Desk – 90% Responsible for providing outstanding customer-centered quality support and service ensuring the highest levels of customer satisfaction. Troubleshoot and resolve IT related issues with desktops and laptops, printers, and other technology peripherals, as well as Windows OS (7 or greater), Office 365, MS Outlook, and more. Address/resolve IT incidents/service requests and/or escalate to the appropriate upper Tier IT teams when necessary; promptly enter / prioritize / track / monitor/ update and resolve all tickets received via the IT Service Desk tracking system, telephone calls and/or walk-ups. Support the Desktop Support team in fulfilling more immediate needs, as necessitated by ticket volume, such as moving equipment and assisting with projects. Create and maintain local site IT systems documentation.

Compliance – 10% Insure compliance to all Panasonic policy and procedures including but not limited to SOX compliance. Exercises good judgment by involving management in resolving customer issues as necessary. Escalates unresolved customer issues in a timely manner. Reports to management team status of environment on a regular basis.

EDUCATION/ EXPERIENCE REQUIREMENTS:

- 2-year degree in IT/ Technical Training is preferred but can be substituted for equivalent experience.
- Our ideal candidate will have 2-3 years of experience with various hardware and software products including (but not limited to): desktops, laptop, Microsoft Windows, Microsoft Office, Active Directory, wired & wireless networking, VPN and Antivirus.
- Working knowledge of Help Desk / Customer Support center operations.
- Excellent customer service skills which you will use to establish working relationships and to provide superior support to all levels within the organization.
- Outstanding communications (spoken and written) skills, including the ability to explain/ present technical information and effectively train/advise customers on information technology issues.
- Approachable and adaptable, this is a start-up where priorities are constantly changing.

2.10 Equipment Technician (Electrical Controls)

Responsibilities Include:

Designs and develops Li-ion battery manufacturing processes by performing following duties :

- Install, diagnose & repair electrical systems, apparatus, and electrical components of industrial machinery and equipment.
- Install power supply wiring and conduit for newly installed machines and equipment such as extruders, process tanks, conveyors, saws, programmable controllers, support equipment, etc.
- Working knowledge of motor controls, VFD's, DC drives, etc.
- Diagnoses malfunctioning apparatus such as PLCs, transformers, motors, and lighting fixtures and replaces damaged or broken wires and cables.
- Tests malfunctioning machinery and discusses malfunction with other team members; repair the problem either by self or with other team members.
- Replaces faulty electrical components of machine such as relays, switches, and motors, and positions sensing devices.
- Knowledge of single and 3-phase up to 480 volts
- Hands on experience in designing, modifying, installing, commissioning and documentation of industrial control systems and sub-systems.
- Plans layout of wiring and installs wiring, conduit, and electrical apparatus in buildings.
- Tests electronic components and circuits to locate defects. Replaces defective components and wiring and adjusts mechanical parts.
- Aligns, adjusts, and calibrates equipment according to specifications.
- Maintains records of repairs, calibrations, and tests. Enters information into computer to copy
- program from one electronic component to another, or to draw, modify or to store schematics.
- Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Associate's Degree in Electric Technology or equivalent experience
- Experience with manufacturing image vision systems such as Keyence or Cognex Experience programming and troubleshooting PLC systems such as Mitsubishi, Omron, or Allen Bradley
- Understands electrical hardware
- Understands drawings, sequence control and software design
- Ability to cooperate and work with related departments including overseas
- Flexibility to solve the issues with first-principles thinking

- Strong computer skills in Word, Excel and PowerPoint to put together proposals, project planning, and status updates and executive presentations.

Desired Qualifications:

- Experience with one or more of the following programming software Omron CX-Programmer Mitsubishi GX Developer Mitsubishi GX Works 3 Keyence KV Studio
- Familiarity with wiring/cabling size/terminations and load/temperature requirements
- Knowledge regarding electrical requirements in hazardous locations (Class I, Div 2)
- Experience with 480 V panel installations
- Control system troubleshooting
- Control wiring design
- Electrical troubleshooting & diagnostics Experience with energy usage/optimization
- Knowledge and handling about American environmental laws and UL (Underwriters Laboratories)

Physical Demands:
The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment :
The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently exposed to moving mechanical parts and risk of electrical shock. The employee is occasionally exposed to fumes or airborne particles and toxic or caustic chemicals. The noise level in the work environment is usually loud.

2.11 Metrologist

Job Purpose

The Metrology Task Team Leader is responsible for standard requirements associated with measuring systems inputs and outputs such as monitoring, measurement, analysis, and evaluation of conforming and nonconforming product.

Responsibilities Include

- Work with Quality to provide data to support control plans and SPC
- Partner with Design Engineers to develop practical datum structures
- Collaborate with Manufacturing Engineers to understand how the datum structures are applied within the manufacturing process.
- Develop the manual and automatic tools needed to support the business needs for metrology
- Calibrate gages and generate calibration records
- Perform MSA studies to validate that the fixtures and programs can perform to the required accuracy and repeatability
- Performs other duties as assigned by management

Basic Qualifications

- Associates degree or higher in engineering or technical field of study
- ASQ Certified Quality Inspector preferred
- Certified Six Sigma Green Belt preferred

Desired Qualifications

- 5-10 years of experience with metrology and using/programming CMM to conduct inspection measurements
- Strong attention to detail
- Advanced skillset in Excel and Power Point.
- Data analysis using established statistical methods. MiniTAB or other software.
- Understanding of quality systems, such as ISO 9001, TS16949 & others.
- Good technical writing skills to convey measurement data
- Sampling plans and sample gathering techniques
- Designed Experiments (DOE)

2.12 ISO Internal Auditor

Job Purpose

An internal audit is used to assess conformity, evaluate effectiveness, and identify opportunities for improvement. Internal audits also prepare for external audits by the registrar for certification.

It is necessary to demonstrate that the ISO 9001:2015 compliant quality system is effective. The internal audits compare the effectiveness of the QMS against the requirements of the standard. The internal auditors are selected from employees within the company to perform the audits. No department may audit its own processes.

Once the ISO-9001 system has been fully implements, an internal audit of the entire QMS must be performed prior to the registration audit. The registration audit is the audit which is performed by the registrar who will issue the ISO 9001 Certificate.

A ISO9001 Internal audit leader is responsible for the standard requirements associated with the performance and analysis of internal audits. This position should be trained as an ISO-9001:2015 internal auditor.

Responsibilities Include

- Revise, refine, update and recommend changes to policies, procedures, artifacts and local support materials.
- Present audit summaries, lessons learned and recommend actions for continuous improvement.
- Responsible for the day to day actions of the audit team.
- Direct auditor conduct and scope as directed by the Manager.
- Ensure that ISO 9001 requirements incorporated into the Quality Management System are audited for compliance.
- Generate and oversee team audit reports, metrics and coordinate results within the organization.
- Collect and summarize audit data for metrics and reporting.
- Assist team and issue corrective action and risk mitigation requests.
- Review corrective action submittals for acceptance and compliance.
- Perform and monitor team follow-up audits for correction effectiveness.
- Develop and revise audit checklists.
- Analyze and maintain trending data and submit reports, as required.
- Performs other duties as assigned by management.

Basic Qualifications

Bachelor's degree in an Engineering, technical or a business field or equivalent.
Five plus years of auditing experience with lead auditor exposure or equivalent experience.

Desired Qualifications

- Experience in planning in a process controlled environment.
- Possess strong problem solving abilities.
- Interpret 5-Why and Root cause analysis results and assist team for acceptance.
- ISO 9001:2015 Lead Auditor certification strongly desired.
- Work with internal audit team as the lead and can represent the team when and as needed.
- ISO Quality system auditing experience or related experience/training.
- Exposure to Risk based thinking and mitigation techniques is a plus.
- Excellent oral and written communication skills.
- Working knowledge of MS Office i.e., Word, Excel, Project, Power Point.
- Experience with mainframe computer software such as Share Point or related as a POC in Quality applications.
- Understand and influence ISO 9001 requirements and compliance.
- Point of Contact for ISO/Quality related internal third party audits.
- Knowledge of process realization, implementation and compliance related to ISO standard requirements.
- Ability to communicate well orally at all organizational levels.
- Ability to represent Quality as a leading force and knowledge base.
- Ability to interact effectively across all levels of the organization.

2.13 Document Control Specialist

Job Purpose

In compliance with regulatory requirements, performs duties such as, but not limited to, word processing documents, input into eQMS, distributing documents to users, and maintaining the master documentation archive. Issues and archives documentation in equipment files for audit purpose. This job contributes to and supports the Production Enhancement team and Quality Department.

Responsibilities Include

- Works under direct supervision performing tasks that are routine to semi-routine in nature.
- Updates entries in computerized quality management system and other databases.
- Review and close work orders, PMs/Calibrations complying with Industry and Government Standards.
- Scans, indexes, and archives master records. Performs “check-in” and “check-out” activities.
- Tracks internal/external distributions of controlled documents.
- Maintains equipment files processed in a timely fashion, issue record numbers, review form(s) for accuracy and compliance, input into eQMS and maintain throughout the document record life cycle.
- Maintains the integrity of document formats.
- Provides assistance during client and regulatory audits.
- Maintains hardcopy master document files.
- Performs other duties as assigned.

Basic Qualifications

- A minimum of a High School diploma is required.
- A minimum of 2 years industry experience is required.
- Experience in a regulated environment such as FDA, GMP, QA or ISO Audit Documentation experience a must.
- Clear communication skills, both oral and written are required.
- Must be proficient in Microsoft Word and Excel.
- Experience using PowerPoint, databases and Quality Systems required.
- Must be detail-oriented, dependable and flexible with strong organizational skills.

Desired Qualifications

An Associates degree is preferred.

2.14 Workplace Coordinator

Job Purpose

We are seeking a dynamic, resourceful Coordinator to be a part of our Workplace Facility Team. While working in a fast-paced environment, the objective of this role is to support a growing population of employees and drive process excellence. This is to ensure our employees are not only satisfied, but enjoy their work environment. A person who will bring enthusiasm, dedication and a collaborative spirit to what is one of the most exciting projects in the world, here at the Gigafactory.

Responsibilities Include

- Serve as a first contact to employees directing them to solutions or team members to answer questions and meet their needs.
- Common space inspection and reporting – Café, Break room, Meeting room, Locker, Restrooms, Parking, Entrance, Lobby, Corridors, etc.
- Receive requests for office furniture, lockers and office supplies.
- Receive and process invoices for submittal and approval Assist with support on special projects i.e., factory visitor tour, company meetings
- Field questions or concerns regarding Employee Programs (Ex: employee shuttle, employee lockers, etc.)

This position will help support the Workplace Team's management of a large-scale office environment of 3000+ employees in a 24/7, 365 days operation. Must be able to work closely with other members of the company on a consistent basis in all aspects of workplace management and support.

Basic Qualifications

Bachelor's degree in business preferred, or related field and 2 years of work experience in HR or Executive Administration and / or an equivalent combination of education and experience.

Desired Qualifications

- A customer-service oriented mind, with a positive, proactive and collaborative approach to projects
- The ability to support by using creativity, organization and time management
- Effective communication skills, ability to work building owner and contractors, as well as employees at all levels of the organization, with sincerity and a "we'll find a way to figure this out" approach.
- Ability to handle sensitive and confidential information in a professional manner with utmost integrity.

- Excellent verbal and written skills in English Strong PC Skills (MS Office, Word, Excel, PowerPoint) and other computer programs.
- Ability to walk a good amount in large facility, approximately 5 miles per day and willingness to work in a construction environment and wear appropriate PPE
- Ability to work off hours if needed
- The employee must be able to follow safety requirements and procedures provided by the company and its agents.

2.15 Calibration Technician

Responsibilities Include:

- Conducting and implementing quality control systems for Li-ion battery manufacturing processes.
- Performing precise calibrations on multiple instruments including by not limited to:
    - Analytical chemistry equipment
    - Materials analysis instrumentation
    - Fine measurement tools (calipers, micrometers, depth gauges, etc.)
    - Pressure gauges
    - Scales
    - Electrical measurement equipment
- Conducting incoming materials quality control in the warehouse for cell production.
- Helping establish quality control system in materials warehouse of battery production.
- Conducting inspection work for incoming materials including cell parts, battery active materials, and chemical materials for battery safety and performance.
- Helping analysis and evaluation of materials input/output data to reduce defects and improve battery performance.
- Providing support to cell manufacturing process auditing on materials to assure production quality.
- Other duties may be assigned.

Basic Qualifications:

- High school diploma or GED.
- Familiarity with quality management tools (control chart, FTA, FMEA, etc.)
- Strong skills with Microsoft Office Suite, particularly Excel.
- Practical experience with materials analysis, testing, and chemical analysis equipment.
- Experience using ISO 9001 quality management system auditing.

Desired Qualifications:

- 3+ years of quality control/quality assurance background is preferred.
- Associate's or Junior College degree in science or engineering field.
- A background as a quality technician in high-volume manufacturing is strongly desired.
- Data analysis experience such as statistical process control of production data.
- Experience in defect reduction of high-volume manufacturing products.

2.16 Production Planner

Job Summary

The Production Planner coordinates and expedites the flow of work and materials within or between departments according to daily and weekly production schedules. Duties include reviewing and distributing production, work, and shipment schedules; conferring with department supervisors to determine progress of work and completion dates; inventory levels and solving production problems.

Responsibilities

- Ensure daily production requirements are achieved to meet customer expectation
- Analyze and prepare documents needed for production.
- Data analysis and decision making to support raw material supply and finished goods demand.
- Creates production schedule and prioritizes job-orders for production optimization.
- Maintains the production schedule and other reports as required.
- Follow-up as required with all teams to expedite flow of materials and documents to meet production schedule and customer expectation.
- Complete status reports for production progress, work in process, and raw material inventory.
- Interacts with production management on a daily basis to resolve issues regarding manufacturing efficiencies or additional information as requested from Manufacturing, Customer Service and Accounting.
- May be asked to perform other duties at a lower level or higher level of proficiency.

Education & Experience

- College Degree or equivalent work experience preferred.
- One to three years' experience in a manufacturing environment preferred.
- One to three years of ERP system experience preferred.

Qualifications

- Understanding of ERP system and Microsoft Office products; strong computer skills.
- Strong organizational and communication skills.
- Detail-oriented, ability to multi-task and prioritize tasks with strict deadlines.
- Good customer service/phone skills and flexibility for handling a wide range of activities.
- Using logic and reasoning to identify solutions to problems.
- Demonstrate personal time management skills.

3 ARBETSLEDNING

3.1 Production General Manager

Responsibilities Include:

- Lead functional teams to meet manufacturing KPI's.
- Empower, develop, and reward individuals and teams for performance and growth.
- Ensure that company resources are utilized to sustain safe manufacturing and distribution excellence.
- Manage ongoing improvements in production efficiency, implementing Lean principles, and demonstrated proficiency in implementation.
- Establish and maintain an effective preventive maintenance program with minimum downtime.
- Utilize analysis of operational metrics to drive product quality and corrective/preventive action programs.
- Coordinate and interact with internal and external cross-functional agencies to fulfill Customer and Company goals.

Basic Qualifications:

- BS in Engineering or Business
- 5-10 years experience in a high speed/high volume manufacturing setting.
- Prior experience as a Plant, Operations or Manufacturing Manager
- Lean, 6 Sigma, continuous process improvement experience
- Understanding of OEE concepts
- ERP transactional experience 5S implementation experience
- Excellent Communication Skills

Physical Demands:

Walking, climbing stairs, lifting, pushing, pulling, sitting, writing, typing, crouching, kneeling, and standing. Minimum lifting of 50 pounds. Must wear a Hard Hat, Safety Glasses, Safety Vest, Steel Toe or Composite Toe Shoes or Boots.

3.2 Assistant Production Manager

(Vice/Assisterande produktionschef) *(Identiska men olika annonser Day/Night shift)*

You will be an integral member of the Production Management team, a key player in ramp up and in sustaining our manufacturing activities . You will own management of assigned production line/s adding your leadership support to all facets of production, thus ensuring production goals are continually met . You will use various processes and methods to transform raw materials, components, and parts into finished Lithium Ion batteries; you will own responsibility for implementing production manufacturing strategy and strategic operational goals, thereby exceeding customer expectations for product quality, cost and delivery; additionally, you will efficiently maximize and optimize production levels while driving operational excellence. You will also work closely with internal and external key stakeholders regarding technical support for activities, and strive for best-in-class products and business practices. By providing clear leadership and vision, you should inspire, motivate and mentor staff to achieve excellence, and to develop new skills, which is an integral aspect of growing our PENA team.
Must be able to drive Key Performance Indicators across assigned Manufacturing Operations and ensure all projects are delivered with the highest quality standards, while maintaining budgetary guidelines and strict deadlines.

Responsibilities Include:

- Manage functional production teams to meet manufacturing KPI's.
- Empower, develop, and reward individuals and teams for performance and growth.
- Ensure that company resources are utilized to sustain safe manufacturing and distribution excellence.
- Manage ongoing improvements in production efficiency, implementing Lean principles, and demonstrated proficiency in implementation.
- Coordinate and interact with internal cross-functional teams to fulfill Customer and Company goals.
- Attend Management meetings and provide detailed input on status of production goals

Desired Qualifications:

- Proven leadership skills with the ability to optimize team performance and development
- Excellent relationship management skills
- Superior communication and interpersonal skills
- Analytical and problem solving abilities
- Results orientated with the ability to plan and deliver against production deadlines and goals
- Resilient, self-motived and able to work well under pressure
- Alignment to Panasonic's 7 core principles

Basic Qualifications:

- BS in Engineering or Business or equivalent manufacturing management experience
- 3+ years' experience in a high speed/high volume manufacturing setting.
- Lean, 6 Sigma, continuous process improvement experience

- ERP transactional experience 5S experience
- Excellent Communication Skills

3.3 Production Supervisor

(olika men identiska annonser day/night shift, intern annons och extern)

Responsibilities Include:

- Responsible for achieving and monitoring Key Performance Indicators (KPI's).
- Reviews production schedules and creates labor plans to meet the scheduled requirements.
- Produce a quality product in the Panasonic production process.
- Responsible for revising and/or establishing new work procedures. Must have experience in high volume shipping and receiving environment. Must have proven inventory control experience.
- Warehouse/Shipping/Receiving I.T. system experience preferred (SAP, MES, Oracle) VMI and Cross-dock experience a plus.
- Recommends continuous improvement activities to improve quality and reduce cost.
- Confers with other supervisors to coordinate activities in related departments.
- Interprets company policies to workers and ensures that safety and ISM policies are followed.
- Consults with Manager and/or Human Resources to resolve employee relations problems for workers he/she supervises.

Supervisory Responsibilities

- Directly supervises employees in the Panasonic production process.
- Carries out supervisory responsibilities in accordance with the organization's policies and applicable laws.
- Responsibilities include interviewing, hiring, and training employees; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees; addressing complaints and resolving problems.

Basic Qualifications:

- High school diploma with Associates or Technical School degree and two to five years of supervisory experience working in a high speed, automated manufacturing environment; or equivalent combination of education and experience.
- High volume manufacturing experience strongly desired.
- Electric component, chemical manufacturing, medical/ pharmaceutical manufacturing experience a plus.
- Experience with Lean and 5S systems extremely beneficial.
- Candidates must be a good communicator and have excellent problem solving and people skills

Desired Qualifications

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

Language Skills

- Ability to read and interpret documents such as safety rules, operating and maintenance instructions, and procedure manuals.
- Ability to write routine reports and correspondence.
- Ability to speak effectively before groups of customers or employees of organization.

Mathematical Skills

- Ability to calculate figures and amounts such as discounts, interest, commissions, proportions, percentages, area, circumference, and volume.
- Ability to apply concepts of basic algebra and geometry.

Reasoning Ability

- Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists.
- Ability to interpret a variety of instructions furnished in written, oral, diagram, or schedule form.

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Must have a safety conscientious attitude.
- Must wear PPE including, safety shoes, clean suit, dust mask, respirator or PAPR suit, gloves, safety glasses/safety goggles, hair net.
- Must be able to lift 50lb ingredient bags or buckets.
- Ability to climb stairs, climb ladders, reach, squat, tolerate prolonged standing/walking, balance, bend from trunk, crawl, kneel, push and pull objects.
- Must be able to work up to 12 hour shifts.

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently exposed to moving mechanical parts,

risk of electrical shock, and vibration. The noise level in the work environment is usually loud.

3.4 Shift Lead

Summary/Essential Functions

- Daily interactions with all Operators on the production floor.
- Schedule daily schedules and tasks with Operators.
- Must be able to adhere to production schedules.
- Communicate with co-workers the status of the current product at hand, mixing QA results, coating QA results, pressing QA results, slitting QA results, and damaged rolls, verbally either directly or through a two-way radio.
- Must be able to communicate with other departments when needed.
- Must be able to deliver a detailed end of shift report to the next shift, and must be able to provide a detailed report when production output is below target.
- Responsible for scheduling staffing needs for vacations and sick days with the operators.
- Help and assist the maintenance tech on repairing and/or replacing equipment when needed.
- Proactively schedule staffing for any downtime for clean-up, change-overs, scheduled maintenance repairs.
- Must adhere to company rules and policy.
- Manage and coordinate raw materials for use in production.
- Must be flexible with work shifts.
- Must have familiarity with the 5S/Lean process.

Education/Experience:

- High School Diploma required. 5 years of experience in a fast-paced high-volume manufacturing environment.
- Must have some experience with Microsoft Office.

Qualifications:

- Must be able to operate all quality equipment related to mixing, coating, pressing, slitting, and SB.
- Must be able to motivate team members, and work in a high performing team environment. Will need to counsel and deliver performance appraisals to operators.
- Must have a safety conscientious attitude.
- In the absence of a supervisor, must be able to make safe, business minded, conscientious decisions when issues arise.
- Must be able to pass a forklift, electric pallet jack and manual pallet jack certification.

Physical Demands:

- Must wear PPE including, safety shoes, clean suit, dust mask or respirator, gloves, safety glasses/safety goggles, hair net.
- Must be able to lift 50lb ingredient bags. Ability to climb stairs, climb ladders, reach, squat, tolerate prolonged standing/walking, balance, bend from trunk, crawl, kneel, push and pull objects. Must be able to lift 50lb ingredient buckets.
- Must be able to work up to 12-hour shifts.

Work Environment:

- Exposure to heat, dust, and noisy conditions.

Language Skills:

- Must be able to read and understand English instructions, written and verbally.

3.5 Shift Lead Materials Management

Responsibilities Include

- Daily interactions with all Operators on the production floor.
- Schedule daily schedules and tasks with Operators.
- Must be able to adhere to production schedules.
- Communicate with co-workers the status of the current product at hand, mixing QA results, coating QA results, pressing QA results, slitting QA results, and damaged rolls, verbally either directly or through a two-way radio.
- Must be able to communicate with other departments when needed.
- Must be able to deliver a detailed end of shift report to the next shift, and must be able to provide a detailed report when production output is below target.
- Responsible for scheduling staffing needs for vacations and sick days with the operators. Help and assist the maintenance tech on repairing and/or replacing equipment when needed.
- Proactively schedule staffing for any downtime for clean-up, change-overs, scheduled maintenance repairs.
- Must adhere to company rules and policy.
- Manage and coordinate raw materials for use in production.
- Must be flexible with work shifts.
- Must have familiarity with the 5S/Lean process.

Basic Qualifications

- High School Diploma required.
- 5 years of experience in a fast-paced high-volume manufacturing environment.
- Must have some experience with Microsoft Office.
- Must be able to read and understand English instructions, written and verbally.

Desired Qualifications

- Must be able to operate all quality equipment related to mixing, coating, pressing, slitting, and SB.
- Must be able to motivate team members, and work in a high performing team environment. Will need to counsel and deliver performance appraisals to operators.
- Must have a safety conscientious attitude.
- In the absence of a supervisor, must be able to make safe, business minded, conscientious decisions when issues arise.
- Must be able to pass a forklift, electric pallet jack and manual pallet jack certification.
- Must have experience in high volume shipping and receiving environment

- Must have proven inventory control experience Warehouse/Shipping/Receiving I.T. system experience preferred (SAP, MES, Oracle) VMI and Cross-dock experience is a plus

Physical Demands

- Must wear PPE including, safety shoes, clean suit, dust mask or respirator, gloves, safety glasses/safety goggles, hair net.
- Must be able to lift 50lb ingredient bags/buckets.
- Ability to climb stairs, climb ladders, reach, squat, tolerate prolonged standing/walking, balance, bend from trunk, crawl, kneel, push and pull objects.
- Must be able to work up to 12-hour shifts.

3.6 ISO 9001 Project Manager

Job Purpose

The ISO project Manager is responsible for coordinating all efforts geared towards the certification of ISO9001 by Panasonic Energy and maintenance of on-going QMS .

Ongoing duties include reporting on how well the QMS is working and where it is not and improvements in the performance. The information reported will include things listed under Management Review (e.g. audit findings, customer feedback, suppliers, data establishing process trends = 'KPI's).

Will also ensure that the focus of the organization remains on the customer. This can mean training, induction for new hires, updating policies, sharing customer feedback, etc.

Responsibilities Include Ensure Quality Management System processes are established, implemented and maintained within budget Ensure ISO9001 is certified in 2019. Communicate with our consultant for ISO 9001 certification. Report to top management on the QMS performance and where improvements are needed Ensure that everyone in the organization is aware of customer requirements

Basic Qualifications

- Bachelor's degree in Business, engineering or related field
- PMP (Project Management Professional) certification, 9001 is preferred
- Minimum of 5 years' experience in ISO 9001 Quality management system integration
- Manufacturing experience is preferred

Desired Qualifications

- Ensure that processes needed for the Quality Management system are established, implemented and maintained
- Report to top management on the performance of the Quality Management System and any needs for improvement
- Ensure the promotion of awareness of customer requirements throughout the organization Liaise with the external consultant on all matters related to the QMS build and certification process
- Ensure that a document control procedure is adopted to approve, review and update all changes to critical documents
- Ensure that records are established and maintained to provide evidence and that there is a system in place for the identification, storage, protection, retrieval, retention time and disposition of such records

- Ensure that the performance is reviewed at planned intervals to ensure its continuing suitability, adequacy and effectiveness. This review means assessing opportunities for improvement and the need for changes
- Ensure that objectives are set by top management for measuring the performance and that these are regularly reviewed
- Ensure that all new staff is inducted into the requirements related to their own roles and responsibilities.
- Provide update training as necessary Ensure that all suppliers used by the organization are selected, evaluated, reevaluated, and that records of these assessments are maintained
- Ensure that top management undertakes periodic but regular assessments of customer satisfaction and that continual improvement is identified as well as implemented
- Other assignments provided by General Manager

3.7 Calibration Shift Lead

Responsibilities Include:

- Conducting daily interactions with Calibration Technicians in the production area.
- Scheduling daily tasks for Calibration Technicians.
- Communicating with co-workers and leaders the status of projects and production.
- Communicating with all departments to ensure smooth quality operations.
- Delivering detailed end-of-shift reports to supervisors on the status of quality projects.
- Performing precise calibrations on multiple instruments including by not limited to:
    - Analytical chemistry equipment
    - Materials analysis instrumentation
    - Fine measurement tools (calipers, micrometers, depth gauges, etc.)
    - Pressure gauges
    - Scales
    - Electrical measurement equipment
- Conducting incoming materials quality control in the warehouse for cell production.
- Helping establish quality control system in materials warehouse of battery production.
- Conducting inspection work for incoming materials including cell parts, battery active materials, and chemical materials for battery safety and performance.
- Helping analysis and evaluation of materials input/output data to reduce defects and improve battery performance.
- Providing support to cell manufacturing process auditing on materials to assure production quality.
- Other duties may be assigned.

Basic Qualifications:

- High school diploma or GED.
- Familiarity with quality management tools such as controls chart, FTA, FMEA, etc.
- Must possess excellent dexterity and nimbleness with repetitive hand motions.
- Must be comfortable with wearing a respirator.
- Practical experience with materials analysis, testing, and chemical analysis equipment.
- Skilled with Microsoft Office products (Word, Excel, and PowerPoint).
- Ability to keep accurate records.
- Ability to read product data sheets and confirm conformance of products to specifications.
- Previous leadership experience in a lead or supervisor role

Desired Qualifications:

- A.S. in a science or engineering field is preferred.
- 2+ years of quality control/quality inspection background is preferred.
- A background as a quality inspector in high-volume manufacturing is strongly desired.
- Experience in defect reduction of high-volume manufacturing products.

3.8 Production Engineering Supervisor (Top Cap)

Responsibilities Include:

- Supervising an engineering team within Panasonic's top cap production process. The top cap group is responsible for the metal forming, stamping, and pressing that is required to manufacture the top cap portion of Panasonic's cylindrical lithium-ion batteries.
- Providing guidance to the production engineering group and coordinating engineering team members to complete projects.
- Scheduling and prioritizing tasks within the engineering team to both improve processes in existing production lines and install/commission new production capacity.
- Supporting engineering managers to ensure successful Gigafactory engineering operations.
- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype products or systems.
- Planning and developing experimental test programs.
- Analyzing test data and reporting to determine if design meets functional and performance specifications.
- Evaluating engineering test results for possible application to developments of systems or other uses.
- Other duties may be assigned.

Basic Qualifications:

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

- Bachelor's Degree in Metallurgical Engineering, Mechanical Engineering, or related field.
- 5+ years of engineering experience in a manufacturing/production environment.
- Experience supervising teams of engineers.

- Previous work with manufacturing stamping press and automation systems is strongly desired.
- Experience utilizing CAD software such as Solidworks.
- Background in overall production management and validation of efficient manufacturing methodology.
- Experience working with hydraulic and pneumatic press systems.
- Background working in a high-volume manufacturing environment.
- Advanced proficiency in Microsoft Office Suite (Word, Excel, PowerPoint, etc).
- Strong verbal and written communication skills to facilitate successful interactions with team members and management.

Desired Qualifications:

Knowledge of manufacturing safety regulations.

3.9 Production Engineering Supervisor (Electrode)

Responsibilities Include:

- Supervising an engineering team within Panasonic's electrode process. The electrode group is responsible for the automated production process through which Panasonic's electrode materials are manufactured.
- Providing guidance to the production engineering group and coordinating engineering team members to complete projects.
- Scheduling and prioritizing tasks within the engineering team to improve equipment production in existing production lines, minimize the effects of equipment failure, and the commissioning of new production capacity.
- Supporting engineering managers to ensure successful Gigafactory engineering operations.
- Interfacing with contractors, vendors, and Tesla engineers on work projects.
- Analyzing product or equipment specifications and performance requirements to determine designs which can be produced by existing manufacturing or processing facilities and methods.
- Determining feasibility of designing new plant equipment or modifying existing facilities considering costs, available space, time limitations, company planning, and other technical and economic factors.
- Providing technical information concerning manufacturing or processing techniques, materials, properties, and process advantages and limitations which affect long range plant and product engineering planning.
- Preparing or directing preparation of product or system layout and detailed drawings and schematics.
- Directing and coordinating manufacturing or building of prototype products or systems.
- Planning and developing experimental test programs.
- Analyzing test data and reporting to determine if design meets functional and performance specifications.
- Evaluating engineering test results for possible application to developments of systems or other uses.
- Coordinating efforts with Japanese Technical Advisor teams
- Other duties may be assigned.

Basic Qualifications:

- Bachelor's Degree in Mechanical Engineering, Electrical Engineering, or related field.
- 5+ years of engineering experience in a manufacturing/production environment is strongly preferred.
- Experience supervising teams of engineers.
- Experience utilizing CAD software such as Solidworks.
- Background in overall production management and validation of efficient manufacturing methodology.
- Background working in a high-volume manufacturing environment.
- Advanced proficiency in Microsoft Office Suite (Word, Excel, PowerPoint, etc).
- Strong verbal and written communication skills to facilitate successful interactions with team members and management.

Desired Qualifications:

- Knowledge of manufacturing safety regulations.
- Training in Lean Manufacturing

3.10 Quality Manager

Job Purpose:
Globally, Panasonic is committed to creating a better life and a better world, continuously contributing to the evolution of society and happiness of people around the world.
Locally, with this in mind, Panasonic Energy is making the worlds #1, highest performance and quality battery in a high-volume manufacturing environment. In order to achieve this exciting goal, we are committed to meeting our very strict quality and safety targets.
The Quality Manager will manage and build the quality systems and team by establishing procedures and KPI's for our Li-ion battery manufacturing processes.

Primary Roles and Responsibilities:

- Establish and maintain quality controls systems in Panasonic's battery manufacturing process.
- Manage engineers, inspectors, technicians, and specialists to improve battery cell performance, safety, and quality.
- Lead the Quality Control team to provide support to the cell manufacturing process to resolve production issues on cell quality and defect reduction.
- Lead the Quality Control team to provide correspondence to customer's complaints, claims, and auditing support requests.
- Oversee Panasonic's ISO quality management system construction and maintenance.
- Facilitate subordinates' education and training.
- Other duties may be assigned.

Education and Experience:

- Bachelor's degree (B. S. in Chemical Engineering, Mechanical Engineering, or related field) from a four-year college or university.
- Experience including quality control of batteries or within electronic devices, in high volume manufacturing.
- 5+ years Management experience is required.
- Familiarity with quality management tools including control charts, FTA, FMEA, etc.
- Strong experience with Microsoft Office Suite including Excel, Word, PowerPoint, etc.
- Experience with laboratory analysis instruments including X-Ray, SEM, ICP, etc.
- Experience with ISO 9001 quality management system auditing.

Language Skills:

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.

- Ability to effectively present information to top management, public groups, and/or boards of directors.
- Ability to comprehend and apply quality control tools such as control charts, FTA, FMEA, why-why analysis, etc.

4 SECURITY & SAFETY

4.1 Security Supervisor

SUMMARY/ ESSENTIAL FUNCTIONS

- The Supervisor, Security will support PENA in the administration of security programs, processes, and strategies which include physical security, asset, and employee protection programs for Panasonic Energy North America (PENA).
- Oversee PENA Security technology to include access control and CCTV monitoring as well as 3rd party security vendor personnel as necessary.
- Document Incident reports in electronic case management system and conduct investigations as necessary
- Coordinate and Liaison with Corporate Security of business partners on site.
- Incorporate security strategies to protect company employees and property.
- Build & Maintain PENA security policy/procedure based on Panasonic Corporate policy
- Lead access control system, Cam & Card Reader, installation project
- Other duties/project as assigned

EDUCATION & EXPERIENCE

- Bachelor's Degree
- Law Enforcement experience preferred
- Corporate Security experience preferred
- Knowledge of LENEL CCTV and Access Control Systems necessary
- Strong computer skills necessary
- Supervise 3 rd Party Security Service provider
- Conduct investigations, as necessary.
- Maintain Access Control and CCTV System

REASONING ABILITY

- Detail oriented with strong organizational skills
- Strong computer skills (Window, MS Office, etc.)Superior communication skills (oral and written)
- Experience with CCTV Software and Access Control Systems

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to stand; walk (roughly 5 miles per day); sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

4.2 Assistant Security Manager

SUMMARY/ ESSENTIAL FUNCTIONS

The Assistant Security Manager will support PENA in the administration of security programs, processes, and strategies which include physical security, asset, and employee protection programs for Panasonic Energy North America (PENA).

- Oversee PENA Security technology to include access control and CCTV monitoring as well as 3rd party security vendor personnel as necessary.
- Document Incident reports in electronic case management system and conduct investigations as necessary
- Coordinate and Liaison with Corporate Security of business partners on site. Incorporate security strategies to protect company employees and property.
- Build & Maintain PENA security policy/procedure based on Panasonic Corporate policy.
- Lead access control system, Cam & Card Reader, installation project
- Other duties/project as assigned

EDUCATION & EXPERIENCE

- Bachelor's Degree
- Law Enforcement experience preferred
- Corporate Security experience preferred
- Knowledge of LENEL CCTV and Access Control Systems necessary
- Strong computer skills necessary
- Supervise 3 rd Party Security Service provider
- Conduct investigations, as necessary
- Maintain Access Control and CCTV System

REASONING ABILITY

- Detail oriented with strong organizational skills Strong computer skills (Window, MS Office, etc.)
- Superior communication skills (oral and written) Experience with CCTV Software and Access Control Systems

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to stand; walk (roughly 5 miles per day); sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift

and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

4.3 Senior Safety Manager (2017)

Job Purpose

Are you a take-charge person who thrives on continuous process improvement and is able to see the big picture as well as the minute details of a manufacturing facility? Our ideal candidate will contribute with passion and proven expertise to a work environment where safety is #1. Further, the candidate will have the opportunity to start up a world class safety and environmental compliance function in a manufacturing facility that is the first of its kind.

Primary Role and Responsibilities

- Develop, lead and facilitate company-wide Safety and Environmental Initiatives to include training, safety team, emergency response procedures, plant wide equipment/machinery safety and more
- Develop full scale manufacturing plant compliance calendar with timelines for all manufacturing plant regulatory and compliance reporting
- Advise management, operations and engineering regarding environmental and safety requirements.
- Utilize expertise to create management and employee training and incentive programs.
- Lead efforts to implement and ensure a culture of safety and environmental compliance
- Perform inspections and tests to verify regulatory compliance
- Understand and manage the safety, compliance and regulatory facets
- Collaborate with all employees to pro-actively identify safety risks and provide solutions Establish and maintain an environmental monitoring program to ensure testing, reporting and monitoring of waste streams.
- Coordinate and oversee outside vendors for various services provided for safety, compliance and regulatory requirements Lead safety and environmental incident investigations
- Track and report progress of safety team progress, area safety audits, incident investigations, problems and solutions
- Manage all federal, state and local regulatory reporting for safety, compliance, permitting and regulatory requirements Perform necessary safety and regulatory inspections and audits as required by OSHA and other federal, state and local regulations
- Represent PENA during OSHA, EPA, county, and other regulatory inspections
- Manage the Company physical security program and procedures
- Coordinate all required OSHA and regulatory training for employees and independent contractors
- Facilitate required annual training for all employees on such topics as security, crisis management and safety
- Lead facility ISO 14001 certification Education and Experience
- Utilize your educational and industry experience, 4 year degree in safety/regulatory compliance management or comparable college degree with relevant experience, to start up a world class safety and environmental function in a high volume, automated battery manufacturing environment (Chemical knowledge is required)
- Ideal candidates will have 5+ years leading safety, and 10+ years experience in regulatory and environmental compliance within a manufacturing environment (Battery or Chemical

manufacturing experience strongly desired) so you can understand our business and ensure that safety and compliance are #1

- Demonstrated understanding of safety program management and root cause analysis as well as corrective action writing and implementation to ensure risk mitigation and a pro-active approach to identifying and resolving items before issues arise.
- Working knowledge of regulatory requirements for OSHA, PPE, MSDS, ROHS to ensure positive interfaces with city, state and other agencies.
- Working knowledge of ISO 14001 to assist with achieving facility certification
- Demonstrated accuracy with reporting and attention to the details to ensure that all required reporting and environmental safety and health compliance actions for the facility is achieved.
- Approachable and adaptable, this is a start-up where priorities are constantly changing. You are leading the effort to ensure we have a strong safety culture!
- Comfortable communicating/troubleshooting with all levels of the organization
- Utilize strong computer skills in Word, Excel and PowerPoint to put together proposals, training programs, project planning and status updates and executive presentations.

4.4 Safety Specialist

Primary Role and Responsibilities

- Directly work with Technical Advisors and vendors (from Japan) when they need safety assistance
- Translate OSHA based training programs, from English to Japanese and vice versa, and give training as needed to support ex-pats
- Working predominately with the battery production line and some oversight over construction contractors.
- The position will consist of writing and revising standards, conducting IH assessments, giving safety training, conducting periodic tool box talks, reviewing risk assessments, sitting in on MOC meetings, and conducting routine auditing with staff.
- Coordinating with Supervisor to accommodate EHS initial and ongoing training
- Working with statistics and trending for training, injuries, near miss, and any non-compliance items
- Developing and giving safety presentations where required
- Helping to maintain PPE and inventory
- Conducting industrial hygiene monitoring and assessments where required
- Conducting routine auditing with staff and coaching employees around value of BBS auditing. Helping to conduct the radiation safety program for workers
- Working with staff on respiratory protection program, including maintain their cartridge change schedules, any baseline, and medical testing.

Education and Experience

- Bachelor degree in Safety or related field preferred. 2-5 years or more of EHS/ Safety experience. Knowledge OSHA standards
- Some knowledge of NFPA, IBC, and EPA Industrial Hygiene knowledge Experience in providing training presentations.
- Ability to work with people at all levels as well as strong conflict resolution skills.
- Degree is not required as long as history of EHS experience and good references
- Strong MS Office (Word, excel, PowerPoint) required.
- Experience conducting risk assessments, incident investigations, and root cause analysis

Language Skills

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.
- Japanese a plus

Mathematical Skills

- Ability to comprehend and apply principles of quality control tool such as Control chart, FTA, FMEA, Why-why analysis.

Reasoning Ability

- Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases.
- Ability to deal with a variety of abstract and concrete variables.

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. While performing the duties of this job, the employee is frequently required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

4.5 Safety Technician

Job Purpose

Outlines and implements training programs about employee safety procedures and accident protection and prevention.

Responsibilities also include developing and distributing educational materials, inspecting company facilities, and recommending corrections or additional precautions to ensure compliance to established regulations. Has knowledge of commonly-used concepts, practices, and procedures withina particular field. Relies on instructions and pre-established guidelines to perform the functions of the job. Must be willing to work a rotating shift of days, nights and weekends. Must be willing to be on call 24/7. Works under immediate supervision. Reports to a EHS Manager.

Primary Role and Responsibilities

- Inspect work areas and equipment to ensure compliance with company, state and federal safety policies and regulations.
- Develop and promote a culture that delivers safe workers and a safe work place.
- Act as the technical resource in respective operating area for EHS related issues.
- Conduct safety orientation and training in a timely, professional manner.
- Deliver quality presentations.
- Conduct accident investigations on time.
- Assist departmental area management in executing safety responsibilities and in making safety efforts successful.
- Provide positive, proactive leadership by example.
- Recommend safety improvement/accident prevention methods.
- Work with departmental area management to integrate EHS into daily work procedures.
- Other duties as assigned by the EHS Manager.
-

Education and Experience

- Associate's degree or a degree in Safety or related field preferred.
- A recognized safety certification a plus.
- 1-4 Years of Safety Experience, manufacturing environment preferred.
- OSHA 10 In General Industry a plus.
- OSHA 10 in Construction a plus.
- Accident Investigation experience a plus
- Lockout/tagout experience a plus

Qualifications

- Strong computer skills with a proficiency in MS Office (Outlook, Word, Excel and PowerPoint) are required.
- Knowledge of OSHA regulations and Federal, State and Local Relations.
- Must be prompt, dependable and have a good attendance record.
- Must be able to participate in the respiratory program which includes but is not limited to being clean shaven and able to wear a respirator when safety needs dictate.

- Ability to work independently

Physical Demands

Walking, Climbing Stairs, Lifting, Pushing, Pulling, Sitting, Writing, Typing, Crouching, Kneeling,Standing. Minimum lifting of 50 pounds. Must Wear a Hard Hat, Safety Glasses, Safety Vest, Steel Toe or Composite Toe Shoes or Boots.

Work Environment

Must have the ability to work in environments that have: Noise, Dust, Smells, Heat, Cold, Heavy Construction Traffic. Level 3 Clean Rooms Require the Following: Gown, Mask, Hair Net, Gloves, Boot Covers.

Language Skills

English as a primary language. Japanese as a secondary Language is a plus, but not necessary

5 ÖVRIG PRODUKTIONS-LEDNING

5.4 Workplace Project Manager

Job Purpose

This exciting position will be responsible for schedules, budgets, resources and deliverables for projects relating to the Workplace. The role will require a customer-service oriented mind, coupled with tenacity and creativity to design and implement projects that better employees' experience in the factory environment. Projects include and are not limited to department office assignment, office layout, furniture allocation, locker/meeting and breakroom management, coordination with building owners on shared spaces and management of certain company events and programs. You will be responsible to gather feedback from department leaders and employees to ensure a productive, safe, and positive work environment. Must monitor projects and stakeholders to ensure goals and objective are kept on track.

Responsibilities Include

- Manage and oversee office environment (Ex: Layout & Space planning, Office furniture & décor arrangement, Office supplies)
- Coordinate with Panasonic security to ensure confidentiality compliance (Security camera layout/installation, access control management)
- Common space management & maintenance – Café, Break room, Meeting room, Locker, Restrooms, Parking, Entrance, Lobby, Corridors, etc.
- Offsite office management – manage office lease, ensure standards of Gigafactory workplace mirror those in the offsite location
- Work with internal teams in coordination of company events – Summer/Winter event, and other special events, company meetings, etc. as needed Implement special projects – such as, factory visitor tour routes
- Manage company commuting programs – carpool/rideshare/shuttle buses Manage company uniform & shoes – Vendor management, design, etc.
- Manage company car program for expat employee base – leases, maintenance, registrations, etc.
- Develop, implement, and maintain all workplace related policies with HR team Budget control – assess project needs, negotiate with vendors, research cost-effective methods
- Supervise and develop for direct reports and/or those assigned to Workplace projects
- This position will manage a large-scale office environment of 3000+ employees, as well as work place team to support 24/7, 365 days operations.
- This position must work with building owner closely and on a consistent basis – submit requests for facilities, janitorial, workplace support, etc.

Basic Qualifications

Bachelor's degree in business preferred, or equivalent experience 5 years or more managing experience in work place, or related responsibility Large scale, 3000+, office

management experience required, and start-up experience are preferred

Desired Qualifications

- Being open to accept challenges and execution for achieving the target
- Be positive, proactive, and collaborate with other members for building successful projects
- Create strategy from big picture, and manage operation by being detail oriented
- Ability and proficiency in collecting, analyzing, presenting data
- Ability to communicate successfully with all levels of employees, management, and 3 rd party (building owner and contractor)
- Excellent verbal and written skills in English Proficient in Microsoft office, and other computer skills.
- Ability to walk a good amount in large facility, approximately 5 miles per day, and need to access construction area daily basis
- Ability to work weekends/nights as needed when urgent issues arise Willingness to work in a construction environment and wear appropriate PPE (Personal Protective Equipment)
- The employee must be able to follow safety requirements and procedure provided by the company and its agents.
- Ability to obtain, or have, current OSHA10 certification(s)
- Project Management or Operations experience desired Customer service experience a plus

5.5 Electrical Controls Team Supervisor

Responsibilities Include:

- Support the production team managers in coordinating the work of the production team members.
- Manage projects and provide technical support to the team.
- Integrate ideas from multiple different teams and select the approaches that best benefit the Gigafactory.
- Support the production and engineering activities of the company.
- Mentor other employees. Interface with contractors and vendors on work projects.
- Develop and implement engineering solutions to technical issues.
- Some domestic travel (several x/year) and overseas travel (1x/year) is required.

Basic Qualifications

- Four-year degree in Electrical Engineering or related degree and 5+ years' work experience in a manufacturing environment. Will consider extensive work experience in place of degree if in a related field.
- Design and maintenance skill for electrical control of machinery
- Experience programming Mitsubishi and Omron PLCs Experience designing servo motor controls and FA network systems
- Background with manufacturing image vision systems such as Keyence, Banner, or Cognex Intermediate level of engineering theory is required.
- CAD skills required (Solidworks preferred).
- Strong computer skills in Word, Excel and PowerPoint to put together proposals, project planning and status updates and executive presentations.
- Able to perform data analysis and recommend actions based on correct interpretation of the results. Experience in supervising and leading a team of employees.

Desired Qualifications:

Knowledge of electrical standards for industrial machinery including NFPA79

5.6 Production Equipment Maintenance Supervisor

(Underhållsansvarig produktionsutrustning) (Högskoleingenjör)

Job Purpose:
To maintain mechanical or electromechanical production equipment by performing the following duties.

Responsibilities Include:

- To analyze the problem, to plan and to execute countermeasures for achieving the operation improvement of equipment.
- To execute to modify equipment for corresponding to a new product. The problem is extracted from the equipment/electrical drawing, and the measures idea is reflected in the drawing.
- To summarize the facility trouble pre-history and to accumulate the know-how.
- To make a training plan for maintenance technician. Planning and Management of Expense for maintenance.
- Perform highly diversified duties to install and maintain production machines and plant facilities/equipment.
- Provide emergency/unscheduled repairs of production equipment during production.
- Perform mechanic skills including, but not limited to, mechanical, electrical, pneumatic, hydraulic, troubleshooting and repair of production machines.
- Diagnose problems, replace or repair parts, test and make adjustments.
- Perform regular overhaul machines, and equipment.
- Perform a variety of electrical, PLC, programming maintenance and functions.
- Use a variety of hand and power tools, electric meters and material handling equipment in performing duties.
- Comply with safety regulations and maintain clean and orderly work areas.
- Confers with research personnel to clarify or resolve problems and develops design. This job has supervisory responsibilities.

Desired Qualifications:

- Skill and Know-how regarding Production engineering by experience in US company Understand drawings,
- Machine tool operation
- Ability to cooperate and work with related departments
- Flexibility to solve the issues without fixed thinking.
- Business operation skill with a sense of speed and leadership

Basic Qualifications:

- Bachelor's degree (B. S. in Mechanical Engineering or closely related field) from four-year college or university; with five or more years related experience and/or training; or equivalent combination of education and experience.

Language Skills:

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.

Reasoning Ability:

- Ability to define problems, collect data, establish facts, and draw valid conclusions.
- Ability to interpret an extensive variety of technical instructions in mathematical or diagram form and deal with several abstract and concrete variables.

Physical Demands:
While performing the duties of this job, the employee is frequently required to talk or hear. The employee is occasionally required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; and stoop, kneel, crouch, or crawl. The employee must frequently lift and/or move up to 10 pounds and occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision, distance vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment:
While performing the duties of this job, the employee is frequently exposed to moving mechanical parts and toxic or caustic chemicals. The employee is occasionally exposed to risk of electrical shock, explosives, and vibration. The noise level in the work environment is usually moderate.

5.7 Quality Control Engineering Manager

SUMMARY

- Manages and builds quality control system including QC team and procedures for Li-ion battery manufacturing processes by performing following duties:
- Establishes and manages quality control team and system in battery cell manufacturing process
- Establishes and maintains quality control system in battery manufacturing process.
- Manages quality control team to improve battery cell performance on safety and quality.
- Lead QC team to provide support to cell manufacturing process to resolve production issues on cell quality and defect reduction.
- Lead QC team to provide correspondence to customers' complains, claims and auditing support requests etc.
- ISO quality management system construction and maintenance
- Subordinates education and training
- Other duties may be assigned.

SUPERVISORY RESPONSIBILITIES

With management responsibility.

QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

EDUCATION and/or EXPERIENCE

- Bachelor's degree (B. S. in Mechanical Engineering, Chemical Engineering, or related field) from four-year College or university.

- Experience including quality control of the battery or electronic devices, quality assurance work is desired.
- Management experience particularly required.
- Familiar with quality management tools (control chart, FTA, FMEA, etc.) and MS Office (Word, Excel and PowerPoint).
- Experience on laboratory analysis using X-Ray, SEM, ICP similar methods in lab is desired.
- Experience including ISO 9001 quality management system auditing is preferred.

LANGUAGE SKILLS

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.

MATHEMATICAL SKILLS

- Ability to comprehend and apply principles of quality control tool such as Control chart, FTA, FMEA, Why-why analysis.

REASONING ABILITY

- Ability to apply principles o flogical or scientific thinking to a wide range of intellectual and practical problems.
- Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases.
- Ability to deal with a variety of abstract and concrete variables.

PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop, kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

5.8 Project Scheduler

Job Purpose:

The Project Scheduler will monitor and document construction progress, identify, track and assist in resolution of construction issues/conflicts. They will monitor, review and report to the Senior Leadership, Engineering, Logistics, and Facilities teams the schedule status of the project with regard to compliance to the construction contract specifications and other documents. The Project Scheduler will gather data, validate and incorporate it into the project schedule, analyze schedule impacts and recommend corrective action to be taken in order to mitigate/avoid cost and schedule overruns. They will also prepare clear and concise scheduling/update analysis reports, including project indicators on a regular basis. The Project Scheduler will effectively interface and participate in conferences with project teams (Senior Leadership Team, Partners, Subcontractors, and Suppliers). Must have the ability to confidently and tactfully work in a mixed team environment. This will be a contract position.

Responsibilities Include:

- Collect, input, validate and analyze progress in the master schedule, using Primavera P6.
- Create new schedules or update existing schedules.
- Utilizing P6 to create work breakdown structure, create schedule milestones, track critical float path, build logic between relationships of activities, integrate with master schedule, etc.
- Assess that project milestones, both short and long term, are being met. Incorporate detail fragments and other sequencing modifications as required.
- Prepare and publish reports on a regular basis
- Present schedule related information and feedback to the Project team, including the Partner and subcontractors.
- Lead daily/weeklyschedule update project meetings.
- Efficiently collect schedule updates from construction team and update live schedule during meetings.
- Perform field walks to get current in-field construction status and update schedule per current construction status.
- Basic Qualifications: 4-year degree in engineering or construction management
- Expert use of Oracle Primavera P6 scheduling software or Microsoft Project
- Proficiency in EVMS (Earned Value Management System)
- Proficiency in resource loading schedule
- Strong time-management and communication skills

Desired Qualifications:

- PMP certification highly desired
- Cost control background is a plus

Physical demands

of the position include walking, climbing stairs, lifting, pushing, pulling, sitting, writing, typing, crouching, kneeling, and standing. Minimum lifting of 50 pounds. Must wear a hard hat, safety glasses, safety vest, steel toe or composite toe shoes or boots.

5.9 Technical Writer

Job Description

This position is an excellent opportunity for a skilled technical writing professional to gain valuable experience in an engineering and manufacturing industry. The Technical Writer will work alongside various production leaders, manufacturing engineers and subject-matter experts to create business processes, technical documentation, and training documentation for a variety of audiences.

Essential Functions

- Experience creating process documentation that clearly and efficiently communicates concepts, ideas and instructions
- Proven track record of creation, maintenance and execution of SOPs Ability to translate verbal information into clearly written procedures
- Exemplary verbal and written communication skills
- Demonstrated ability to work well with culturally diverse and global teams
- Study engineering drawings, parts lists, specifications, mock-ups, and product samples to accurately integrate and delineate technology, maintenance procedure, troubleshooting, and parts breakdown
- Creating technical specifications for automated manufacturing equipment
- Experience reading and interpreting mechanical drawings Excellent listening and observation skills
- Select photographs, drawings, sketches, diagrams and charts to illustrate material that meets client demands
- Work independently with minimal supervision to manage writing assignment projects in a manner that maximizes internal resources, stays within budget and meets project deadlines

Qualifications

- BS Degree in Engineering or correlated subject
- Minimum 5 years experience in technical writing with demonstrated ability to independently produce high quality publications
- Prior experience working with translators preferred
- Proficient with technical writing applications such as MS Office Suite (Word / Visio / Excel), Adobe Products (FrameMaker / Acrobat / Photoshop), DITA XML, and graphics tools (SnagIT / Photoshop).
- Must have a high attention to detail, self-motivated and eagerness to collaborate
- Ability to work under pressure while managing competing demands and tight deadlines (simultaneously managing multiple documentation projects)
- Familiarity with six sigma and lean manufacturing preferred

5.10 Translator/Interpreter (Contractor) (2017)

Job Duties

- Interpret between Japanese expats and local staff.
- Provide interpretation for various meetings as well as telephone conferences.
- Translate technical and non-technical documents including policies, instructions and manuals when necessary. Compose and translate emails, reports etc.
- Assist Japanese visitors and expats with their daily needs.
- Required to translate both Japanese to English and English to Japanese.
- Other duties may assign by management.

Qualifications:

- Written and verbal fluency in Japanese and English, excellent communication and writing skills.
- Japanese/ English business language skills
- Translator / interpreter experience in a business/ technical environment, manufacturing industry preferred.
- Strong computer skills (MS Word, Excel, PowerPoint, Outlook)
- Ability to translate quickly and accurately

Work Environment:
Working at construction trailer until building construction complete. Meeting or some admin task at construction area depends on tasks.

5.8 ISO Communication and Training Specialist (Contract)

Job Purpose

The Communications and Training Specialist is responsible for promulgating QMS SOP's and providing training to management, supervisors, and team leads concerning QMS requirements. This position reports to the Project Manager.

Responsibilities include:

- Support efforts to maintain and continually improve the Quality Management System (QMS).
- Communicate and ensure compliance with internal policies and procedures and provide training as needed.
- Ensure applicable ISO requirements are integrated into procedures and continuously monitor for updates, assess, implement required changes, and assure compliance.
- Effectively communicate the importance of QMS to all levels of the organizations through development and providing training.
- Plan and perform internal audits, initiating corrective and preventive actions as applicable and following through to closure.
- Participate in external audits and requests for information ensuring accuracy of responses.
- Experience in preparation of company staff and sponsor staff in inspection readiness.
- Support overall Training & Onboarding function, create and present new training materials.

Basic Qualifications

Bachelor's degree in an Engineering, technical or a business field or equivalent.
5 years of QA, compliance, and/or auditing experience.

Desired Qualifications

- Excellent communication skills, ability to multitask, detail-oriented, and strong organizational skills.
- Excellent analytical, and problem-solving skills, presentation/training skills.
- Basic understanding of ISO 9001 standards and requirements.

Experience with client feedback handling, customer service/satisfaction is a plus.

6. HUMAN RESOURCES

6.1 Sr. HR Coordinator

Job Purpose:
We are seeking a dynamic Senior HR Coordinator to be a part of a great HR team, drive process excellence, and support a growing population of employees in what is one of the most exciting projects in the world, here at the Gigafactory.

Responsibilities Include:

- Assist and support employees - Serve as a first-contact bridge to employees, directing them to solutions or team members to meet their needs on a variety of fronts such as onboarding, employee services, HR systems, employee relations or other needs.
- Maintain and improve HR process excellence – from records management, to compliance and other tracking, to onboarding and other activities. Keep the wheels turning smoothly and effectively.
- Assist the HR team – Partner in needs or projects the HR team may have, including administrative needs of the HR management team, including the GM of HR and General Affairs.
- Help to plan and coordinate events from large-scale employee events where the HR team is involved, to smaller scale needs such as team building, interview events, or otherwise.
- Billing and Vendor Management – facilitate review and payment for HR-related invoices, and adoption of new vendors into the relevant systems.
- Office coordination – Ensuring relevant office equipment and supplies are on-hand as the organization grows, or even moves within the expanding facility.
- Other duties/ HR projects, as assigned.

Basic Qualifications:
Bachelor's degree in Human Resources, Business, or related field and 4 years of work experience in HR or Executive administration, and /or an equivalent combination of education and experience.

Desired Qualifications:

- Experience with a high-volume hiring environment or support of a large employee population (2000 plus) highly desired.
- Demonstrated organizational skills.
- Ability to multi-task and coordinate multiple schedules effectively and efficiently. Resourceful.
- Positive approach to work.

- Supportive and high-energy Effective communication skills, ability to work with employees at all levels of the organization with sincerity and a “we’ll find a way to figure this out” approach.
- Superior organizational skills and outstanding follow-through.
- Ability to handle sensitive and confidential information in a professional manner with utmost integrity.
- Strong PC Skills (MS Office, Word, Excel, PowerPoint).
- Previous experience with ATS/HRIS systems desired.
- Willingness to be an active and positive contributor to a great team!

6.2 Senior HR Manager - Client Support

Panasonic is seeking a skilled HR Leader to become our Senior HR Manager, reporting to the GM of HR and General Affairs (VP of HR), and leading a growing team of HR Business Partners and Generalists for an employee base of over 1,500 people. This role is the HR key partner to Panasonic’s operational leadership at the Gigafactory, and is an opportunity to come into an exciting environment and build. This role combines your leadership, business acumen, leadership development, employee relations, communication, and passion to lead a team to make a difference in what is still a start-up. This organization is poised to grow by several hundred employees in just the next few months. Bring your energy and creativity, and come build with us.

Responsibilities Include:

- Lead a team of HR Business Partners, each a mini-CHRO for their internal clientele, as well as a team of HR Generalists (people partners) to enable business objectives and amplify the voice of the employee.
- Partner with other HR functional areas such as Talent Acquisition, HR Operations, Legal, and Learning and Development to bring robust solutions to bear for organizational challenges.
- Generate credibility with employees through listening, doing what was said would be done, and excellent follow-up back to each individual.
- Increase employee engagement and positive employee relations through high-touch interactions, upstream communications, opportunities for involvement both at work, as well as in the community.
- Elevate the capability of the HR Client Support team and by extension, the entire HR function through goals & objectives, training, regular feedback, HR staffing excellence and external perspective.
- Propel organizational vitality by preparing HRBPs to lead out in talent reviews and acceleration plans for high-potential employees.
- Shape and champion PENA culture throughout the organization through personal example, clear communication and consistency in policy adherence.
- Create clear and practical policy that appropriately addresses business and employee needs.
- Develop leaders in the organization with excellent coaching and partnership. Distill key priorities from on-the-ground interactions into projects with clear scope and accountability, verifying their impact through organizational feedback.
- Present monthly in all-employee assembly formats on relevant HR topics to increase awareness and accessibility to HR.
- Facilitate knowledge transfer from global to local teams as part of production ramp-up plans.

- Prepare contingency plans and emergency operational support in coordination with risk management planning.

Basic Qualifications:

- Bachelor's Degree in Business, HR, or related field. Minimum of 8 years of experience in a HR capacity, including having led teams. Manufacturing or related HR experience.

Desired Qualifications:

- 10+ years HR leadership experience, with a majority in a manufacturing environment, preferably in both union and non-union environments.
- Multi-site HR leadership preferred.
- Genuineness of character.
- Humility and high self-confidence to listen without ego, and advocacy for the important things.
- Positive energy.
- Demonstrated comfort in multi-national environments.
- Superb written and spoken communication – but genuine above all. This role is a critical leadership role, with communications affecting a large organization.
- Demonstrated excellence in investigatory elements of employee relations including having addressed concerns related to discrimination, compliance, safety, etc.
- Clear prioritization to advance efforts on multiple fronts.
- Flexibility – critical for a start-up environment.

6.3 Contract Recruiter

Job Purpose:
Are you an expert of attracting and assessing talent? We are looking for a talented, dynamic Talent Acquisition professional who will use their passion for recruiting and creativity to help stand up a factory that is one of a kind.

Responsibilities Include:

- Partner with business leaders and Hiring Managers to support operational hiring needs
- Responsible for full-cycle recruiting from intake meeting with Hiring Managers to offer of employment.
- Facilitate all aspects of the interview process, including interview scheduling, phone screening, and candidate selection
- Participate in and plan networking, recruiting and hiring events
- Meet all goals related to key staffing metrics, to include time-to-fill, new hire effectiveness etc.
- Develop and maintain networking relationships with community organizations, colleges and universities, alumni organizations, industry organizations, employees and colleagues to help identify and source qualified talent
- Develop creative recruitment solutions and talent pipeline strategies.
- Provide and ensure great candidate experiences.
- Ensures that recruiting and hiring practices are compliant with all applicable local, state, and federal employment laws
- Performs other related duties as required

Basic Qualifications:

- Bachelor's Degree or equivalent business experience preferred.
- Minimum of 2 years of high volume recruiting experience, manufacturing industry a plus.
- Demonstrated track record in attracting, sourcing and selecting top talent.
- Strong verbal and written communication and interpersonal skills to build partnerships and business relationships
- Ability to interact with internal and external stakeholders Strong technical skills to include Applicant Tracking Systems and MS Office

6.4 Talent Development Manager

Job Purpose:
Panasonic is seeking a skilled HR Leader to become our Talent Development Manager, reporting to the GM of HR and General Affairs (VP of HR), and leading organization (OD) and talent development for a growing employee base of over 1,500 people. This role will shape our leadership, employees, and our culture, and is an opportunity to come into an exciting environment and build. This role combines your skills in OD and training, succession planning, talent management, leadership development, business acumen, and passion to make a difference in what is still a start-up. This organization is poised to grow by several hundred employees in just the next few months. Bring your energy and creativity, and come build with us.

Responsibilities Include:

- Lead PENA's all aspects of talent development, including needs assessments, L&D, organizational development, succession planning, front-line leadership, executive development, etc.
- Lead out in learning, including leading training specialists in leadership and employee effectiveness training creation and adoption, with an eye to continuous improvement.
- Partner with other HR functional areas such as Client Support, HR Operations, Legal, and Talent Acquisition to bring robust solutions to bear for organizational challenges.
- Generate credibility with other functions and employees through engagement, listening, and developing robust, but practical solutions along with excellent follow-through.
- Demonstrate speed in response to organizational needs to keep pace with the growth of the organization – in many cases "done is better than perfect".
- Own talent review processes, to deepen visibility to high-potentials within the organization. Build robust succession plans for key roles in partnership with HR and leadership teams for stability and domain depth in the medium and long term.
- Shape entry points such as internship and campus hire programs to strengthen organizational pipelines in one of the most exciting opportunities to learn in the world.
- Be out-in-front in change-management efforts with practical frameworks built for multi-cultural audiences, while not getting lost or losing others in theory.
- Help teams visualize and improve the employee experience to capitalize on the career growth opportunities in PENA.
- Evaluate, negotiate, and deliver vendor solutions as appropriate for relevant needs.
- Bring your energy and creativity to a substantial, growing organization where the clay hasn't set and the opportunities to make a mark are everywhere!

Basic Qualifications:

- Bachelor's Degree in Psychology, Business, HR, or related field
- Minimum of 6 years of experience in a HR or OD capacity, including having led teams

Desired Qualifications:

- 8+ years OD, Learning, and/or leadership experience
- Advanced degree in OD, Industrial Psychology, or OD. MBA or MHR/MILR with relevant Talent Development experience.
- Superior facilitation ability – small groups or large audiences.
- Genuineness of character.
- Humility and high self-confidence to listen without ego, and advocacy for the important things.
- Willing to roll-up sleeves.
- Positive energy.
- Demonstrated comfort in multi-national environments.
- Demonstrated capability to deliver quality training and development solutions to an employee base - moves quickly through needs assessment to implementation with high standards of excellence – effective analysis, but doesn't get bogged down.
- Proven ability to recognize and address multiple stakeholders.
- Experience in talent reviews, succession planning, on-the-job individual development plan creation and execution, mentorship and coaching programs.
- Clear prioritization to advance efforts on multiple fronts.
- Flexibility – critical for a start-up environment.

6.6 Learning and Development Manager

Job Purpose
The learning and development manager is responsible for improving the productivity of the organization's employees through managing the organizational training and employee development policies, processes and systems. Working with supervisors and managers to determine needs, recommend the best learning and development methods to enhance employee productivity through requisite knowledge, skills and abilities. This position actively searches, creatively designs and implements effective methods to educate, enhance performance and recognize performance.

Primary Role and Responsibilities

- Establishes L&D policies and processes to enable organizational learning
- Prepares subject matter experts (SME) to deliver and track technical training
- Develops and facilitates leadership and soft skills training programs
- Proposes training and development programs and objectives
- Analyzes learning delivery methods to recommend best approach(es) for each situation, including make/buy decisions
- Develops and monitors spending against the departmental budget.
- Obtains and/or develops effective training materials working with production staff and managers
- Deep collaboration and communication with all levels in the organization to enhance and build high performance teams
- Trains and coaches managers, supervisors and others involved in employee development efforts
- Develops, tracks and reports training metrics
- Conducts follow-up studies of completed training to evaluate, measure effectiveness and modify for continuous improvement
- Exemplifies the desired culture and philosophies of the organization
- Works effectively as a team member with other members of management and the HR staff
- Develops and maintains organizational communications such as bulletin boards and newsletters to ensure employees have knowledge of training and development events and resources
- Plans, organizes, facilitates and orders supplies for employee development and training events
- Responsible for all training records and compliance with all internal and external regulations and laws

Education, Experience, and Qualifications

- Bachelor's degree in relevant field with 7 years of progressive learning and development experience, including at least 2 years of leading an L&D function, including supervision of employees A combination of directly related experience and education can substitute for education on a 2 years' experience per year of degree basis, although completion of a bachelor's degree is preferable.
- Experience requirements are in addition to the degree requirements
- Excellent training facilitation and presentation skills.
- Must be able to use presentation skills to effectively engage participants at all levels to promote professional development
- Experience leading learning and development programs in a production environment
- Successful track record of developing and delivering training programs, creating materials and utilizing a variety of training methods and tools
- Knowledge of CMMI or other maturity models to establish targets and progression path for the L&D function
- Strong computer skills (MS Word, Excel, PowerPoint) required
- Certified Professional in Learning and Performance (CPLP) credential

Language Skills

- Ability to read, analyze, and interpret common scientific and technical journals, financial reports, and legal documents.
- Ability to respond to common inquiries or complaints from customers, regulatory agencies, or members of the business community.
- Ability to write speeches and articles for publication that conform to prescribed style and format.
- Ability to effectively present information to top management, public groups, and/or boards of directors.

Mathematical Skills
Ability to comprehend and apply principles of quality control tools such as Control chart, FTA, FMEA, Why-why analysis, etc.

Reasoning Ability
Ability to apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Ability to deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.,) in its most difficult phases. Ability to deal with a variety of abstract and concrete variables.

Physical Demands
The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.
While performing the duties of this job, the employee is frequently required to stand; walk; sit; use hands to finger, handle, or feel; reach with hands and arms; climb or balance; stoop,

kneel, crouch, or crawl; and talk or hear. The employee must frequently lift and/or move up to 25 pounds and occasionally lift and/or move up to 10 pounds. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

6.7 Contract Recruiting Coordinator

Job Purpose

You are the key to an organizations success! The glue that holds it all together. Are you personable, fun, detail oriented and willing to take on multiple tasks handed to you daily? How is your project management and people skills? We are looking for someone that will step in and be the liaison between recruiting and hiring managers as well as candidates. As the primary contact with candidates interested in Panasonic, you will be driving the customer experience.

Panasonic Energy has an amazing culture and we are looking for the right team player to help propel recruiting efforts to success!

Responsibilities Include

- Responsible for administering and expediting all pre-boarding and onboarding processes to include, background checks, ATS data administration, offer letter processing etc.
- Support of interview coordination
- Support of job postings
- Participation and coordination of hiring events and candidate experiences.
- Ensures data integrity in applicant tracking and supports data validation processes.
- Generation of reports used for new hire tracking and other key performance measurements.
- Work with the Recruiting team to provide a positive candidate experience from offer acceptance to first day of hire
- Supports other HR/ Recruiting projects, as required.

Basic Qualifications

- Minimum of 1 year of work experience as a Recruiting Coordinator or similar position or experience in a high-volume, fast-paced, startup environment.
- Bachelor's degree in business or related field or equivalent experience.
- Strong MS Office skills (Word, PowerPoint)

Desired Qualifications

- Strong attention to details for data integrity and analysis.
- Strong organizational and time management skills.
- Ability to provide creative solutions to time-sensitive situations and complex challenges.
- Customer service oriented with strong communication skills (both verbal and written)
- Experience with applicant tracking or CRM-type systems, generating reports and performing basic data analysis in Microsoft Excel (pivot tables, report formatting, etc.)

6.8 Compensation Analyst

Job Purpose

We are seeking a dynamic Compensation Analyst to be a part of a great HR team, drive employee engagement, and support a growing population of employees in what is one of the most exciting projects in the world, here at the Gigafactory.

Primary Role and Responsibilities

- Audit jobs for content and prepares and /or reviews job descriptions reflecting job responsibilities, activities, duties and requirements.
- Reviews requests for new or revised classifications to determine appropriate salary grade assignment
- Select survey job matches and conduct market pricing for jobs, develop salary ranges and comp packages
- Conduct job analysis to support salary structure development/review during merges and acquisitions project.
- Conducts analysis of Executive Compensation for company's competitiveness.
- Develops and/or participates in compensation surveys to submit data and analyze competitive salary information to determine company's competitive position
- Prepares special studies and recommendations on subjects such as merit budgets, bonus plans, or other compensation-related programs.
- Conduct ad-hoc analysis on job families, new market request and comp package reviews
- Participate in the configuration of Workday system and system testing to support fiscal year end merit and bonus process
- Helps manage fiscal year end process, including communications to HR and managers
- Prepares routine and special reports for internal clients
- Analyzes data necessary to make recommendations regarding development of company salary structure, FLSA exemptions, job revisions and organizational structures

Basic Qualifications

- Bachelor's degree or equivalent experience
- Minimum two years of experience in Compensation
- Advanced skill level of Excel required
- High level of detail orientation

Preferred Qualifications

- Experience with a high-volume hiring environment or support of a large employee population (2000 plus) highly desired.
- Demonstrated organizational skills. Ability to multi-task and coordinate multiple schedules effectively and efficiently. Resourceful.
- Positive approach to work. Supportive and high-energy
- Effective communication skills, ability to work with employees at all levels of the organization with sincerity and a "we'll find a way to figure this out" approach.

- Superior organizational skills and outstanding follow-through.
- Ability to handle sensitive and confidential information in a professional manner with utmost integrity.
- Strong PC Skills (MS Office, Word, Excel, PowerPoint). Previous experience with ATS/HRIS systems desired.
- Willingness to be an active and positive contributor to a great team!

7. EKONOMI

7.1 Sr. Business Analyst

Job Purpose:
Field support leader of PISCA on site PENA, executes process design and project leading as a PISCA member. A field support leader of PISCA leads manufacturing innovation projects as a business process designer by leveraging both their knowledge of business processes as well as IT applications and environments that support the business processes. Business analyst in the core SAP ECC modules with a focus on the MM and PP module and bridges the gap between Business users. IT service providers using SAP application, for the purpose of designing and configuring business needs into IT solutions.

Responsibilities Include:
Processes and Specifications

- Write Business Requirements
- Document, functional specifications document and client communications
- Map both simple and complex business processes (AS-IS & TO-BE) and/or larger scope workflow
- Perform business process analysis
- Become proficient in PENA systems including interfaces and integrations between SAP and other systems
- Use standard methodology to document; business requirements, business processes, system solution design and the application development methodology (from idea to realization)
- Factory and IT innovation project lead
- For complex projects, facilitate and conduct business and functional requirements gathering activities
- Lead the development of future recommendations and conducts presentation to business unit management
- Maintains detailed knowledge of business processes
- Competent in SAP ERP configuration as a generalist for all basic modules, with a focus on MMPP
- Competent understanding of SAP ERP application user functionality as a generalist in basic modules and MMPP
- Assist end users in developing UAT test case scenarios Facilitate and participate in and validate user acceptance testing
- Develop the business analysis and recommendation of application solutions based on business requirements
- Client-End-User-Relations
- Develop client relationships to meet business requirements Interpret user requirements into system solutions
- Plan and manage application development and day-to-day support

- Recommend technical solution options to meet changing business needs

Basic Qualifications:

Scope : Manage own time and material Meet targets assigned Interface with all levels of the PENA management. Collaborate with PNA Corporate IT staff and management Does not have direct reports

Education & Experience : Undergraduate degree required, advanced degree desired in Business or IT curriculum Minimum 5 years of experience in SAP ERP application functional support/development Project management experience for factory innovation SAP configuration experience required (SAP HANA experience is not required) Experience in a foreign company preferable, e.g. Japanese or Germany company

Competencies :
Identify, research problems Determine logical solutions by leveraging expertise and experience Use broad systems thinking Be creative/innovative

Communications : Key communications contacts (internal/external) and level of persuasion required Regular communications with all levels of PENA business unit management The ability to influence and persuade management on areas of business improvement is a significant competency. Physical Demand:

Other Requirements :
Travel up to 25% - international or domestic

7.2 Fixed Asset Accountant

Job Purpose:

The Fixed Asset Accountant is responsible for recording the cost of newly acquired assets, tracking existing assets, recording depreciation, and the disposition of assets.

Responsibilities Include :

- Fixed Assets
- Reconciles and monitors construction in progress accounts for newly acquired fixed assets.
- Reconciles and manages freight and customs accounts
- Coordinates with departments to get assets tagged and other information needed for asset records.
- Manages spreadsheets and documentation for entry into the SAP system
- Timely and accurate posting of fixed assets into system
- Ability to identify issues and work within the finance team and other teams to resolve the issues.
- Assist with yearly asset inventory for each department and area
- Enter journal entries for closing at the end of each month
- Internal Controls Support the finance manager / controller's efforts for implementing and maintaining internal controls for fixed assets.
- Work with the Fixed Asset Supervisor to implement fixed asset accounting policies and procedures as they are developed.
- Audit Assist with preparation of audit schedules with proper documentation
- Assist auditors with any inquiries

Basic Qualifications:

- BS/BA degree preferred but not required
- Minimum of 3-5 years of fixed assets experience, preferably in a manufacturing or similar environment
- Advanced literacy with Microsoft Office, especially Excel spreadsheets and database functions
- Knowledge of SAP, Oracle or another fully integrated ERP system preferred but not required

Desired Qualifications:

- Follows procedures put in place by the finance team to compile data into worksheets and databases

- Ability to use reasoning to solve problems that may arise
- Communicate effectively with fellow team members and members of other departments Utilize established resources to complete work efficiently and effectively
- Strong customer service skills including excellent verbal, written, analytical, and interpersonal skills Responds to inquiries from other departments in a timely manner
- Capable of handling confidential information in a responsible manner
- Flexibility and Multi-tasking capabilities
- Detail oriented Highly organized and able to follow a systematic method of performing a task Strong data entry skills
- Ability to collaborate with and form teams
- Ability to work with domestic and international teams

The noise level in the work environment is usually moderate

7.3 Purchasing Supervisor

As a working Purchasing Supervisor, you will be responsible for the review of purchase orders and vendor contracts for a wide variety of commodities. You will oversee the ordering of materials, supplies, and MRO items from vendors and act as a primary liaison between internal customers and Purchasing Department for discrepancy resolutions. You will manage departmental operations in the absence of the Procurement GM.

Responsibilities:

- Ensure assigned staff maintains on-time processing of orders
- Manage the reassignment of orders based on available staffing.
- Identify and assist with resolving issues that delay material deliveries.
- Improve efficiency and effectiveness of the purchasing function.
- Responsible for ensuring all orders are processed in a timely manner.
- Ability to Multitask and communicate with various departments throughout the company.
- Must be detailed oriented and possess initiative.
- Ability to work independently and perception needed to spot obvious discrepancies while processing information.
- Must be a team player and work well with procurement personnel as well as with the internal customer.
- Responsible for supervision of the procurement team.

Minimum Education And Experience

- Bachelor's Degree and 5 years Procurement experience as a Supervisor

Required Skills And Education

- Procurement experience required, ideally with high volume and $1 million or more.
- Experience as a supervisor or lead.
- Excellent verbal and written communication skills along with attention to detail are required.
- Ability to interact effectively with various levels of management is required.
- Proficient in MS Office Suite, especially Excel, PowerPoint and Outlook.
- Experience in developing formal RFQ's and analyzing results.

- The ability to assist with negotiation planning and strategies.
- Active communicator and team player.

7.4 Buyer

Job Purpose
Are you tech savvy and a master negotiator? Our ideal candidate will contribute with passion and proven technical expertise to establish and manage vendors. Further, the candidate will execute timely procurement of services, parts etc. to ensure successful production operations.

Primary Role and Responsibilities

- Part of a team that manages the sourcing and purchasing of materials, sub-assemblies, supplies, equipment and services at the most favorable cost and at terms consistent with providing superior service to customers via MRP analysis and reports
- Role will be responsible for the ordering and receipt of materials requested by Production and Engineering teams for ongoing construction and manufacturing production.
- Responsible for daily communication with the receiving team and confirmation of materials arriving. Also, responsible for handoff of materials to the team member expecting materials.
- Work with Manufacturing Management and Production Engineering to establish specifications and procurement needs to ensure successful operations.
- Identify and select vendors to procure materials and/or equipment etc. to meet criteria of price, quality, quantity, availability, and delivery dates and place orders
- Perform accurate and timely execution of incoming requests while maintaining high Quality and Customer Service standards
- Provide suggestions to improve supply chain, solve shortage issue and strengthen supplier relationships
- Analyze departmental purchase requisitions for completeness and accuracy of information.
- Contact department or initiator to clarify and complete information. Determine method needed to process requisition.
- Monitor and maintain records regarding pricing and ordering of materials
- Control MOQ (minimum order quantity), freight and handling costs
- Monitor, analyze and report material variances to standard cost.
- Prepare reports analysis and recommendations
- Assist in all the other purchasing/planning department duties as requires
- Other miscellaneous duties as assigned

Education, Experience, and Qualifications

- Bachelor's degree in business or related field preferred.
- 1-5 years of equivalent work experience preferred.
- Strong knowledge of MRP a plus.

- Proficient in MS Office with strong EXCEL skills.
- Data analysis experience.
- Operate as a collaborative team member and function with minimum supervision
- Thrive in demanding, deadline driven culture
- Ability to multi-task, pay attention to detail ad prioritize/manage multiple projects simultaneously
- Excellent organizational skills as well as strong written and verbal communication skills
- Ability to lift 35lbs or more regularly.

7.5 Accounts Payable Accountant

Job Purpose:

Accounts Payable Accountant is responsible for matching of invoice, purchase order and packing slips. In addition, assure expenses are properly recorded to the proper department and conducts monthly vendor and accounts payable reconciliations.

Responsibilities Include:

Fixed Assets

- Performs function of receiving, reviewing, processing and reconciling supplier invoices
- Uses 3-way matching of invoices, purchase order and packing slip
- Monthly prepare vendor account reconciliations - supplier statements vs. PENA Payables
- Detail oriented to ensure expenses are charged to the proper department and make any necessary reclassification entries
- Ability to troubleshoot and resolve invoice discrepancies by working with the PENA department that ordered the item(s) and/or supplier
- Manages spreadsheets and documentation for entry into the SAP system

Timeliness and accuracy

- Ability to identify issues and work within the finance team and other teams to resolve the issues
- Enter journal entries for closing at the end of each month
- Other various administrative support as needed.

Internal Controls

- Support internal control efforts along with the finance supervisor/manager's for implementing and maintaining internal controls for accounts payable
- Work with the Supervisor to implement accounts payable accounting policies and procedures as they are developed.
- Audit Assist with preparation of audit schedules with proper documentation
- Assist auditors with any inquiries

Basic Qualifications:

- BS/BA degree preferred but not required

- Minimum of 3-5 years of accounts payable experience, preferably in a manufacturing or similar environment
- Advanced literacy with Microsoft Office, especially Excel spreadsheets and database functions for tracking, variance analysis and reporting Knowledge of SAP, Oracle or another fully integrated ERP system

Desired Qualifications:

- Follows procedures put in place by the finance team to compile data into worksheets and databases
- Ability to use reasoning to solve problems that may arise
- Communicate effectively with fellow team members and members of other departments Utilize established resources to complete work efficiently and effectively
- Strong customer service skills including excellent verbal, written, analytical, and interpersonal skills Responds to inquiries from other departments in a timely manner
- Capable of handling confidential information in a responsible manner
- Approachable and adaptable, this is a start-up environment where priorities are constantly changing
- Flexibility and Multi-tasking capabilities
- Detail oriented and highly organized and able to follow a systematic method of performing a task
- Ability to respond in a timely and courteous manner to suppliers and PENA team members
- Ability to work with domestic and international teams

The noise level in the work environment is usually moderate

7.6 Construction Cost Analyst

Job Purpose:
This position offers you the opportunity to expand your skills and experience in the critical infrastructure construction project and with the budget control. Our ideal candidate is an experienced hands-on construction cost analyst or estimator who understands the importance of safely finishing a project on time and under budget while utilizing and contributing his/her expertise to the successful completion of the project.

Responsibilities Include:

- Perform daily walk-through in the field for verifying an actual construction progress and identifying any discrepancies between the field-verified progress and the contractors' reports or invoices.
- Identify and clarify any issues or conflicts causing a delay of work completion that potentially affects PENA's A/P.
- Identify incomplete or poorly complete work that requires a responsible contractor to re-do the work while PENA holds off a payment.
- Discuss with contractors regarding invoices and payments.
- Analyze invoices, payments, and A/P trends for forecasting a cashflow in both short and long runs.
- Identify and analyze a relationship between a construction progress or delay and A/P Identity and analyze the facility's utility usage and its expenses, then strategize for the reduction of them.
- Identity and analyze the facility's operating expenses including lease, utility expense, and maintenance costs before a payment is approved and released.
- Create a database of all related expenses and statistics mentioned above for planning to build and operate a sustainable project.

Basic Qualifications:

- Associate's or Bachelor's degree in construction management, accounting, engineering management, or a related field (or equivalent work experience)
- Understanding of business and/or construction Understanding of construction cost estimating, accounting, and cost control Strong written and verbal communication skills. Strong analytical skills.
- Excellent computer skills with proficiency in Microsoft Office.
- Desired Qualifications: 3+ years of experience in a cost analyst role is preferred
- Previous experience in a manufacturing environment is desired

Competencies :

- Being open to accept challenges and try to overcome them – either individually or collectively
- Focus to achieve the organization's goals while developing skills and gaining knowledge
- Ability to collaborate with others for building successful projects

- Ability and proficiency in collecting, analyzing, and presenting data

Communications : Ability to communicate successfully with all levels of employee and management Excellent verbal, written and presentation skills

Other Requirements : Ability to walk or maneuver approximately 3 miles per day in the factory (no construction / production activities are included in the position) Willingness to work in a construction environment and wear appropriate PPE (no construction / production activities are included in the position) Follow safety requirements and procedure provided by the company and its agents.

7.7 Procurement Assistant General Manager

Job Purpose

The Procurement Assistant General Manager is the primary leader in sourcing, negotiating, and procuring quality products in our 24/7 high-volume manufacturing operation. Will assist the General Manager in reducing costs, ensuring on time deliveries, and bringing in quality product by developing effective business strategies while remaining compliant with current policies and procedures.

Responsibilities Include

- Source for, negotiate, and procure quality material (both direct and indirect manufacturing materials)
- Track corresponding logistics, KPIs, delivery times, etc
- Managing cost reduction, ensuring on time deliveries, and no material quality issues
- Identify and assist with resolving issues that delay material deliveries
- Improve efficiency and effectiveness of the purchasing function
- Responsible for ensuring all orders are processed in a timely manner
- Ability to work independently and perception needed to spot obvious discrepancies while processing information
- Must uphold supplier compliance
- Must be a team player and work well with procurement personnel as well as with the internal customer
- Remain knowledgeable about global markets and trade
- Supplier negotiations for inbound materials shipping
- Work closely with executive management to recommend, define, publish and implement internal procurement policies and procedures
- Work closely with Japan HQ to report on historical and projected spend

Basic Qualifications

- Bachelor's degree in Supply Chain Management or Procurement or related field
- 5+ years' experience minimum in Procurement Management role
- Lithium ion battery experience preferred but not required
- Electronics, Metals, Fabrication, Facilities, Logistics, Import/Export experience preferred

Desired Qualifications

- Knowledge of metal press parts, chemical (especially battery chemicals), and other manufacturing purchasing
- Must be team oriented
- Excellent verbal and written communication skills along with attention to detail are required
- Ability to interact effectively with various levels of management is required
- Proficient in MS Office Suite, especially Excel, PowerPoint and Outlook
- Experience in developing formal RFQ's and analyzing results
- The ability to assist with negotiation planning and strategies
- International trading knowledge and experience
- ERP SAP utilization experience is preferred
- Warehouse inventory management experience

8.0 Ordförklaringar mm

Förkortningars betydelser, mm i jobbannonserna/Gigafactory ovan.

5

5s system	*Metod för att skapa ordning och reda på arbetsplatser inom LEAN* Fem ord på S på japanska, som härrör från Toyota och Lean Production. På svenska har detta översatts med Sortera (seiri), Systematisera (seiton) Städa alt. Skick (seiso), Standardisera (seiketsu), Se till alt. Sköt om (shitsuke). https://sv.wikipedia.org/wiki/5S Alternativ översättning finns också. Metod för att hålla bra ordning, rationalitet och säkerhet på arbetsplatsen.

6

6 Sigma	*Sex sigma (eller på engelska Six Sigma) är en metodik för förbättringsprojekt.* Målet är att nå besparingar genom att minska orsaker till defekter och variation i tillverkningsprocesser och affärsprocesser. Metoden används i första hand av större producerande företag exempelvis inom tillverknings- eller fordonsindustrin. Se https://sv.wikipedia.org/wiki/Sex_Sigma

A

ATS/HRIS systems

Mjukvaruapplikation för rekrytering av personal.

Klipp: An "applicant tracking system" (ATS) is a software application that enables the electronic handling of recruitment needs. An ATS can be implemented or accessed online on an enterprise or small business level, depending on the needs of the company and there is also free and open source ATS software available. An ATS is very similar to customer relationship management (CRM) systems, [1] but are designed for recruitment tracking purposes. In many cases they filter applications automatically based on given criteria such as keywords, skills, former employers, years of experience and schools attended.[2] This has caused many to adapt resume optimization techniques similar to those used in search engine optimization when creating and formatting their résumé
https://en.wikipedia.org/wiki/Free_and_open-source_ATS_-_Free_and_open-source_applicant_tracking_system_software

HRIS - se HRIS systems längre ned under H.

Access Control System

Inpasserings- och tillgänglighetssystem.

Klipp: In the fields of physical security and information security, access control (AC) is the selective restriction of access to a place or other resource
https://en.wikipedia.org/wiki/Access_control

ARIBA

Modul i SAP, för enklare och bättre upphandling.

AS-IS

"Som det är" - *Metod för kartläggning av affärsprocesser*
Business process mapping method
Exempel: https://www.visual-paradigm.com/tutorials/as-is-to-be-business-process.jsp
https://www.youtube.com/watch?v=byzFWqkQWS4
https://www.heflo.com/blog/process-mapping/as-is-to-be-process-mapping/

Se även "TO-BE"

ASRS

"Automated Storage and Retrieval System". Automatiskt lagringsystem

Se https://en.wikipedia.org/wiki/Automated_storage_and_retrieval_system

B

BOM "Bill of Materials"
Lista på delar och materiel som behövs för att tillverka en produkt-

Klipp: Monitor the integrity of Bill of Materials (BOM) and manage inventory accuracy. A bill of materials or product structure (sometimes bill of material, BOM or associated list) is a list of the raw materials, sub-assemblies, intermediate assemblies, sub-components, parts and the quantities of each needed to manufacture an end product. A BOM may be used for communication between manufacturing partners, or confined to a single manufacturing plant. A bill of materials is often tied to a production order whose issuance may generate reservations for components in the bill of materials that are in stock and requisitions for components that are not in stock.
https://en.wikipedia.org/wiki/Bill_of_materials

B.S. Bachelor of Science, motsvarande svensk kandidatexamen

BBS "Behavior Based Safety" - *Beteende baserat säkerhetssystem*

Klipp: Behavior-based safety (BBS) is the "application of science of behavior change to real world safety problems".[1] or "A process that creates a safety partnership between management and employees that continually focuses people's attentions and actions on theirs, and others, daily safety behavior."[2] BBS "focuses on what people do, analyzes why they do it, and then applies a research-supported intervention strategy to improve what people do".[3] At its very core BBS is based on a larger scientific field called organizational behavior management
https://en.wikipedia.org/wiki/Behavior-based_safety

C

CMM "Coordinate Measuring Machine" - *Koordinatmätmaskin för att verifiera form och läge på detaljer*

alternativt
Capability Maturity Model se nedanstående.

CMMI "Capacity Maturity Model Integration"
En modell/ program för utvärdering och förbättringar av processer. Jmf här med olika versioner av ISO 9000 systemet – Processledning och utveckling-

Klipp: Capacity Maturity Model Integration is a process level improvement training and appraisal program. CMMI can be used to guide process

improvement across a project, division, or an entire organization. CMMI defines the following maturity levels for processes: Initial, Managed, Defined, Quantitatively Managed, and Optimizing.
https://en.wikipedia.org/wiki/Process_area_(CMMI)

CPLP " Certified Professional in Learning and Performance"
Certifierad yrkesperson/ akademiker inom lärande och arbetsprestation-

Certified Professional in Learning and Performance, credential
https://en.wikipedia.org/wiki/Association_for_Talent_Development

Control chart *Kontroll-schema*

Klipp: Control charts, also known as Shewhart charts or process-behavior charts, are a statistical process control tool used to determine if a manufacturing or business process is in a state of control.
http://www.measurlink.com/controlcharts.html

https://en.wikipedia.org/wiki/Control_chart

Cross dock *Ett logistic-system för snabb och smidig lastning av varor från ett fordon till ett annat för en så snabb hantering som möjligt-*

Klipp: Cross-docking is a practice in logistics of unloading materials from an incoming semi-trailer truck or railroad car and loading these materials directly into outbound trucks, trailers, or rail cars, with little or no storage in between. This may be done to change the type of conveyance, to sort material intended for different destinations, or to combine material from different origins into transport vehicles (or containers) with the same or similar destinations
https://en.wikipedia.org/wiki/Cross-docking

CCTV "Closed-circuit television" *Kameraövervakningssystem-*

Klipp: Closed-circuit television (CCTV), also known as video surveillance,[1][2] is the use of video cameras to transmit a signal to a specific place, on a limited set of monitors.
http://www.stechid.com/cctv.html

CMM "Coordinate-Measuring Machine", *koordinatmätmaskin*. Används för att verifiera form och läge på komponenter.

D -

E

EHS ”Environment, Health, Security” (*Miljö- och hälsoskydd*?)

Klipp: Environment, health and safety (EHS) is a discipline and specialty that studies and implements practical aspects of environmental protection and safety at work. In simple terms it is what organizations must do to make sure that their activities do not cause harm to anyone.

Regulatory requirements play an important role in EHS discipline and EHS managers must identify and understand relevant EHS regulations, the implications of which must be communicated to executive management so the company can implement suitable measures. Organisations based in the United States are subject to EHS regulations in the Code of Federal Regulations, particularly CFR 29, 40, and 49. Still, EHS management is not limited to legal compliance and companies should be encouraged to do more than is required by law, if appropriate

https://sv.wikipedia.org/wiki/EHS

EDAX **“**Energy Dispersive Spectroscopy”
alternativt
”Energy Dispersive Analysis X-Ray”,
…ofta i kombinerad förkortning SEM/EDAX där SEM står för Scanning Electron Microscopy alternativt Energy Dispersive Spectroscopy

ERP “Enterprise Resource Planning” *Ett affärsledningssystem*

Klipp: Enterprise resource planning (ERP) is the integrated management of core business processes, often in real-time and mediated by software and technology.

ERP is usually referred to as a category of business management software — typically a suite of integrated applications—that an organization can use to collect, store, manage and interpret data from these many business activities.

ERP provides an integrated and continuously updated view of core business processes using common databases maintained by a database management system. ERP systems track business resources—cash, raw materials, production capacity—and the status of business commitments: orders, purchase orders, and payroll.
https://en.wikipedia.org/wiki/Enterprise_resource_planning

EPA *United States ”Environmental Protection Agency” (EPA) är en federal miljöskyddsmyndighet i USA.*
https://sv.wikipedia.org/wiki/Environmental_Protection_Agency

EVMS ”Earned Value Management System”
Ett projekt och processledningssystem för löpande utvärdering av resultat.

Klipp: Earned value management (EVM), earned value project management, or earned value performance management (EVPM) is a project management technique for measuring project performance and progress in an objective manner.
https://en.wikipedia.org/wiki/Earned_value_management

F

FIFO *”First In First Out”, "först in, först ut"*

Varierande betydelser beroende på kontext:

Klipp:
(accounting) A method of inventory accounting that values items withdrawn from inventory at the cost of the oldest item assumed to remain in inventory.
(operations) A policy of serving first what has arrived for service first.
(computing) A type of queue data structure in which the oldest added items are retrieved first.
http://www.yourdictionary.com/first-in-first-out

FI/CO, FI-CO “Financial Accounting & Controlling Module”. Modul i I SAP.

FMEA ”Failure Mode and Effects Analysis” *Metod för felsökningsanalys I produktkvalitet.*

Klipp: Failure Mode and Effects Analysis (FMEA [1], på svenska feleffektsanalys) är en systematisk metod att förutsäga möjliga fel, utvärdera felens konsekvenser och genom poängsättning föreslå vilka åtgärder som bör genomföras för att hindra att felen uppträder. FMEA har flera användningsområden, men är särskilt vanlig inom fordonsindustrin och är en del av ledningsystemen för kvalitet, QS9000 och TS16949. En FMEA är huvudsakligen en kvalitativ analysmetod.

FMEA kan utvidgas med en kriticitetsanalys, den benämns då Failure mode, effects and criticality analysis (FMECA) (Feleffekts- och kriticitetsanalys).[2] I dagligt tal kan man säga FMEA fast man menar

FMECA.[3]
https://sv.wikipedia.org/wiki/Failure_modes_and_effects_analysis

FTA "Federal Transit Association" - *Federalt kvalitetssäkringssystem för transportsektorn,*
FTA verkar ungefär motsvara Transportstyrelsen I Sverige, men här avses deras kvalitetssäkringsrekommendationer:
Federal Transit Association Quality Management Guidelines –
https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FINAL_FTA_QMS_Guidelines_December_2012.pdf

FA Network "Factory Automation Networks". *Automatiserat ofta PLC-baserat nätverkssystem för automatiserad tillverkning.*

G

GED "General Education Development". Ett standardiserat test som motsvarar High School Degree, Examen på gymnasienivå

H

HRBPs "HR business partners" *Stödjande affärspartners inom personal utveckling*

Klipp: HR business partners are HR professionals who work closely with an organisation's senior leaders in order to develop an HR agenda that closely supports the overall aims of the organisation. HR organizations in large companies are typically divided into three sub-divisions: HR business partners (HRBPs), HR centers of excellence, and HR shared services. C&B is an HR center of excellence, like staffing and organizational development (OD)
https://en.wikipedia.org/wiki/Compensation_and_benefits

HRIS system "Human Resource Management System" *Personalledningssystem*

A Human Resource Management System or HRIS (Human Resource Information System) is a form of HR software that combines a number of systems and processes to ensure the easy management of human resources, business processes and data. Human Resources Software is used by businesses to combine a number of necessary HR functions, such as storing employee data, managing payrolls, recruitment processes, benefits

administration and keeping track of attendance records. It ensures everyday Human Resources processes are manageable and easy to access
https://en.wikipedia.org/wiki/Human_resource_management_system

HVAC ”Heating, ventilation, and air conditioning” *Värme, ventilation och luftkonditionering*.

Klipp: Heating, ventilation, and air conditioning (HVAC) is the technology of indoor and vehicular environmental comfort. Its goal is to provide thermal comfort and acceptable indoor air quality.
https://en.wikipedia.org/wiki/HVAC

I

ICP “Inductively Coupled Plasma” – *Analysteknik för att kartlägga kemiska beståndsdelar t.ex Används t ex I Masspektrometrisk analysutrustning*

https://en.wikipedia.org/wiki/Inductively_coupled_plasma

IBC ”Intermediate Bulk Container” *En typ av mellanliggande lastcontainer-*

Klipp: An intermediate bulk container (IBC), IBC tote, or pallet tank, is a reusable industrial container designed for the transport and storage of bulk liquid and granulated substances, such as chemicals, food ingredients, solvents, pharmaceuticals, etc.

A typical plastic composite intermediate bulk container (IBC)

https://en.wikipedia.org/wiki/File:IBC_on_pallet.jpg

ISO 14001 *ISO 14001 är en internationellt accepterad standard, som utgör grunden för fastställande av miljöledning, och som kan användas i alla typer av organisationer inom alla slags industrier.*

Grunden till ISO 14 001 är de 55 skall-kraven. Dessa kan ses som komponenter för att lyckas med miljöledningssystem. Det är de 55 kraven som kommer att revideras genom miljöledningsarbetet. De övriga standarderna i ISO 14 000-serien är vägledande och är en hjälp för utformning av miljöledningssystemet. Skall-kraven kan uppfyllas på olika sätt beroende på vilket företag som implementerar dem. Meningen med ISO är att den ska kunna användas på olika typer av företag som har olika stor miljöpåverkan och miljöbelastning. Som bevis på att företaget uppfyller de krav som standarden sätter, blir företaget certifierat av ett oberoende certifieringsorgan. Beroende på företagets storlek och verksamhet skiftar komplexiteten och omfattningen av dokumentationen. Det finns alltså ingen specifik miljöprestanda att uppnå utan ISO bygger på ständiga förbättringar inom företaget
Klipp från https://en.wikipedia.org/wiki/ISO_14000

IH assessments "Industrial Hygiene Assessments" *Riskbedömningar och förebyggande av risker för personal I industriproduktion*

Se
https://en.wikipedia.org/wiki/Engineering_controls
https://www.dir.ca.gov/dosh/cal_vpp/Best_Practices_Symposiums/IH_Assesement.pdf

J

JLPT "Japanese Language Proficiency Test"

K

KPI "Key Performance Indicator". På svenska ofta kallat *"nyckeltal".*

-
Klipp: A performance indicator or key performance indicator (KPI) is a type of performance measurement.[1] KPIs evaluate the success of an organization or of a particular activity (such as projects, programs, products and other initiatives) in which it engages.

Often success is simply the repeated, periodic achievement of some levels of operational goal (e.g. zero defects, 10/10 customer satisfaction, etc.), and sometimes success is defined in terms of making progress toward strategic goals.[2] Accordingly, choosing the right KPIs relies upon a good understanding of what is important to the organization

https://en.wikipedia.org/wiki/Performance_indicator

L

Lean *Systematisk metod/process för att minimera ”spill” vid produktion-*

se
https://en.wikipedia.org/wiki/Lean_manufacturing

L&D ”Learning and Development” *Personalledning och personalutveckling-*

se
https://en.wikipedia.org/wiki/Training_and_development

LOTO “Lockout-tagout” . *Säkerhetssystem för avstängning och start av maskiner inom tillverkningsindustri*

Klipp: Lockout-tagout (LOTO) or lock and tag is a safety procedure which is used in industry and research settings to ensure that dangerous machines are properly shut off and not able to be started up again prior to the completion of maintenance or repair work
https://en.wikipedia.org/wiki/Lockout-tagout

Lot numbers *Identititesmärkning / identitetsnumrering av partier med ett antal varor-*

Klipp: A lot number is an identification number assigned to a particular quantity or lot of material from a single manufacturer. Lot numbers can typically be found on the outside of packaging.
https://en.wikipedia.org/wiki/Lot_number

M

MBA Master of Business Administration, ungefär Civilekonom

mini-CHRO “Chief Human Resources Officer”. “Lead a team of HR Business Partners, each a *mini-CHRO* for their internal clientele…” = *betydelse ungefär avdelning/grupp av klientel*

MHR/MILR Master of Human Resources / Master of Industrial and Labor Relations

MRP “Material Requirements Planning” alt “Manufacturing Resource Planning” *System för planering resurser för tillverkning av produkter-*

Klipp: Material Requirements Planning system () or IT system that is in place and ensure that data is accurate and up to date and resolve any issues as required
https://en.wikipedia.org/wiki/Material_requirements_planning

Alternativt:

Klipp: Manufacturing resource planning (MRP II) is defined as a method for the effective planning of all resources of a manufacturing company. Ideally, it addresses operational planning in units, financial planning, and has a simulation capability to answer "what-if" questions and extension of closed-loop MRP.
https://en.wikipedia.org/wiki/Manufacturing_resource_planning

MOP "Maintenance Operating Procedures" alternativt "Maintenance Operasting Protocol".

Klipp: Maintenance Operating Procedures - se även The Maintenance Operation Protocol (MOP) is used for utility services such as uploading and downloading system software, remote testing and problem diagnosis. It was a proprietary protocol of Digital Equipment Corporation.
https://en.wikipedia.org/wiki/Maintenance_Operations_Protocol

MES ”Manufacturing Execution System” *Produktionsstyrningssystem*

Klipp: (MES) är ett övergripande system för styrning och övervakning av produktionsprocesser. MES används inom branschen automation, d.v.s. produktion av mjukvara och hårdvara för automatisering av produktionsprocesser och andra processer.
https://sv.wikipedia.org/wiki/Manufacturing_Execution_System

M.S Master of Science, magister eller masternivå

MSA “Measurement System Analysis”, *Mätsystemanalys.* En metod att med statistiska metoder verifiera dugligheten av ett mätsystem. MSA finns ofta som krav i kvalitetssystem.

MSDS “Material Safety Data Sheet”. *Säkerhetsdatablad/ ark / handling-*

Klipp: A safety data sheet (SDS),[1] material safety data sheet (MSDS), or product safety data sheet (PSDS) is an important component of product stewardship, occupational safety and health, and spill-handling procedures. SDS formats can vary from source to source within a country depending on national requirements.
https://en.wikipedia.org/wiki/Safety_data_sheet

MMPP "Material plannings and procurement" *En modul i affärssystemet SAP ERP, om materialplanering och upphandling*

Material plannings and procurement,:
https://archive.sap.com/discussions/thread/1933409

MOQ "Minimum order quantity" *Minsta order/beställning-*

N

NFPA, IBC, and EPA Industrial Hygiene knowledge

Lagar och förordningar avseende riskbedömningar och förebyggande av risker för personal i industriproduktion-

Industrial hygiene monitoring regulations **(se även IH assessments** Industrial Hygiene assesments)

Klipp: NFPA-National Fire Protection Association - The National Fire Protection Association (NFPA) is a United States trade association, albeit with some international members, that creates and maintains private, copyrighted standards and codes for usage and adoption by local governments. *Brandskydds standarder och krav.*
https://en.wikipedia.org/wiki/National_Fire_Protection_Association

Klipp: EPA - Environmental Protection Agency - U.S Environmental Protection Agency – *Miljö department / miljö kontor etc…*The EPA has its headquarters in Washington, D.C., regional offices for each of the agency's ten regions, and 27 laboratories.[3] The agency conducts environmental assessment, research, and education. It has the responsibility of maintaining and enforcing national standards under a variety of environmental laws, in consultation with state, tribal, and local governments.
https://www.epa.gov

NFPA79 *Elektrisk standard för industrimaskiner, särskilt ur brandskyddssynpunkt, utgiven av National Fire Protection Agency, NFPA*

Klipp: Electrical standard for industrial machinery - NFPA 79 provides safeguards for industrial machinery to protect operators, equipment, facilities, and work-in-progress from fire and electrical hazards.

https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=79

O

OD "Organisation Development" *Organisationsutveckling*

OSHA, EPA, county, and other regulatory inspections

Tillsynsmyndigheter för säkerhet och hälsa-

Klipp: Toxic substances used in the work area must be disclosed to the occupants under laws managed by Occupational Safety and Health Administration.

Hazardous substances used outside buildings must be disclosed to the appropriate state or local agency responsible for State Environmental Protection Agency regulatory actions outside federal land. Use on federal land is managed by United States Environmental Protection Agency and Bureau of Land Management.

The Department of Defense is self-regulating, and as such, is immune to state and federal law pertaining to OSHA and EPA regulations on foreign and domestic soil.

https://en.wikipedia.org/wiki/Right_to_know

OSHA 10 *Utbildningsprogram inom säkerhet och hälsa utgivet av Occupational Safety and Health Administration.*

Klipp: The term OSHA 10 refers to the OSHA Ten Hour Training that is part of the OSHA Outreach Training Program.

The OSHA Outreach Training Program is a voluntary program of training provided by OSHA authorized trainers. Its purpose is to promote workplace safety and health. It is a tool that can be used to make workers more knowledgeable about their rights related to workplace safety and health and overall workplace hazards.

https://www.graphicproducts.com/articles/what-is-osha-10/

OEE "Out-of-Order Execution"

Klipp: OEE concepts out-of-order execution (or more formally dynamic execution) is a paradigm used in most high-performance central processing units to make use of instruction cycles that would otherwise be wasted. In this paradigm, a processor executes instructions in an order governed by the availability of input data and execution units,[1]rather than by their original order in a program.[2] In doing so, the processor can avoid being

idle while waiting for the preceding instruction to complete and can, in the meantime, process the next instructions that are able to run immediately and independently.[3]
https://en.wikipedia.org/wiki/Out-of-order_execution

P

PLC

”Programmable Logic Controller”. Programmerbart styrsystem ofta för enklare ändamål.

Ett äldre men fortlevande styrsystem med programmering av maskiner, hissar etc, ibland så hårdvarunära som att flytta fysiska byglar men ofta idag via micro-controllers, chips och mjukvara.
https://sv.wikipedia.org/wiki/Programmerbart_styrsystem

Vanliga PLC-system idag är t ex Mitsubishi’s, Omron’s eller Allen-Bradley’s system.

PPE

“Personal protective equipment” *Personlig skyddsutrustning-*

Personal protective equipment (PPE) refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection.
https://en.wikipedia.org/wiki/Personal_protective_equipment

PAPR suite

“Powered, air-purifying respirator” *Friskluftsmask eller –dräkt.*

Klipp: A powered, air-purifying respirator (PAPR) is a type of personal protective equipment used to safeguard workers against contaminatedair. PAPRs consist of a respirator in the form of a hood, or full-face mask, which takes ambient air that is contaminated with one or more type of pollutant or pathogen, actively removes (filters) a sufficient proportion of these hazards, and then delivers the clean air to the user's face and/or mouth. PAPRs are sometimes called positive-pressure masks, blower units, or just blowers. https://en.wikipedia.org/wiki/Powered_air-purifying_respirator

alt:

A CDC laboratorian dons an older-model PPPS before entering a Maximum Containment lab, or “suit lab”.

Klipp: Positive pressure personnel suits (PPPS) — or positive pressure protective suits, informally known as "space suits", "moon suits", "blue suits", etc. — are highly specialized, totally encapsulating, industrial protection garments worn only within special biocontainment or maximum containment (BSL-4) laboratory facilities. These facilities research dangerous pathogens which are highly infectious and may have no treatments or vaccines available. They also feature other special equipment and procedures such as airlockentry, quick-drench disinfectant showers, special waste disposal systems, and shower exits.

https://en.wikipedia.org/wiki/Positive_pressure_personnel_suit

PMP certification “Project Management Professional” - *En särskild certifiering som projektledare*

Klipp: Project Management Professional (PMP) is an internationally recognized professional designation offered by the Project Management Institute (PMI). As of March 2018, there are 833,025 active PMP certified individuals and 286 chartered chapters across 210 countries and territories worldwide.[1] The exam is based on the PMI Project Management Body of Knowledge
https://en.wikipedia.org/wiki/Project_Management_Professional

Q

Qa results “Quality results” *Kvalitetsresultat-*

QC team “Quality Control team” *Team för kvalitetskontroll*

OMS *“Quality Management System”, kvalitetssystem*

R

RCA "Root cause analysis". *Rotfelsanalys*

Klipp: Root cause analysis is typically used as a reactive method of identifying event(s) causes, revealing problems and solving them. Analysis is done after an event has occurred. Insights in RCA make it potentially useful as a preemptive method. In that event, RCA can be used to forecast or predict probable events even before they occur. While one follows the other, RCA is a completely separate process to incident management.
https://en.wikipedia.org/wiki/Root_cause_analysis

RFO "Request for order/ offer"

alternativt

Reasons for outage, *Orsak till avbrott*
https://it-ord.idg.se/?s=RFO

RF scanner "Radio Frequency scanner" *Radiofrekvensscanner-*

Används i samband t ex med RFID, Radio Frequency Identification
https://en.wikipedia.org/wiki/Radio-frequency_identification

ROHS "Restriction of Hazardous Substances Directive" *Restriction / direktiv för hantering av farliga ämnen*

se
https://en.wikipedia.org/wiki/Restriction_of_Hazardous_Substances_Directive

RFQ "Request for quotation". *Offertförfrågan*

S

SAP *Affärssystem (dvs CRM system)*
https://en.wikipedia.org/wiki/SAP_ERP

SEM ”Scanning Electron Microscope”. *Svepelektron-mikroskop*
se
https://en.wikipedia.org/wiki/Scanning_electron_microscope

SEI ”Safety Equipment Institute” *Institut för säkerhetsutrustning* –
se https://en.wikipedia.org/wiki/Safety_Equipment_Institute

SME Subject Matter Expert *Specialist inom ett särskilt område-* (I Europa också Small and medium Entrerprises)

SAP Erp *Särskilt affärssystem-*

Klipp: SAP ERP is enterprise resource planning software developed by the German company SAP SE. SAP ERP incorporates the key business functions of an organization. Business Processes included in SAP ERP are Operations (Sales & Distribution, Materials Management, Production Planning, Logistics Execution, and Quality Management), Financials (Financial Accounting, Management Accounting, Financial Supply Chain Management), Human Capital Management (Training, Payroll, e-Recruiting) and Corporate Services (Travel Management, Environment, Health and Safety, and Real-Estate Management) https://en.wikipedia.org/wiki/SAP_ERP

SAP HANA *System för hantering av databaser-*

Klipp: SAP HANA is an in-memory, column-oriented, relational database management system developed and marketed by SAP SE.[1][2] Its primary function as a database server is to store and retrieve data as requested by the applications. In addition, it performs advanced analytics (predictive analytics, spatial data processing, text analytics, text search, streaming analytics, graph data processing) and includes ETL capabilities as well as an application server. - (in-memory database, förkortat imdb) –– databas som körs helt och hållet i servrarnas arbetsminne. Det gör att operationer (läsningar, tillägg, ändringar och raderingar) kan ske mycket snabbare än om de görs mot hårddiskar. ––Man kan skilja mellan två typer av minnesdata-baser:
1 databaser där alla operationer görs i arbetsminnet, men där resultatet slutligen lagras på disk;
2 rena” minnesdatabaser som inte är kopplade till hårddiskar. Informationen

lagras i samma minne som operationerna körs i. Exempel: SAP Hana
https://it-ord.idg.se/ord/minnesdatabas/

SAP ECC modules with a focus on the MM and PP module…

SAP – se ovan
ECC – Error checking and correction
MM module – Materials management
PP module – Product Planning

SCM

”Supply chain management” *Flödesekonomi*

Klipp: ”*Supply chain management ”(SCM) handlar om materialflödet genom ett företag. Enligt vissa författare finns ingen bra svensk översättning på SCM, men enligt Carl-Henrik Nilsson, Ulf Paulsson, Kjell Tryggestad, Sten Wandel, Henrik Norinder (vilka skrivit en svensk bok om fenomenet) är begreppet flödesekonomi det bästa svenska ordet för SCM*

Med en supply chain avser man flödet av pengar, varor eller information från tillverkare till den slutliga kunden genom alla stegen i produktionen (och ibland även tillbaka igen, om det handlar om återvinning). Supply chain management är också nära sammankopplat med logistik, där SCM är ett konkret tankesätt att se över de logistiska funktionerna ur en organisations synvinkel. Kedjan omfattar även de organisationer och processer som behövs för att skapa och leverera produkter och tjänster till konsumenten.

Supply chain-flödet indelas i tre underflöden:
Produktflödet
Informationsflödet
Penningflödet

https://en.wikipedia.org/wiki/Supply_chain_management

SDS

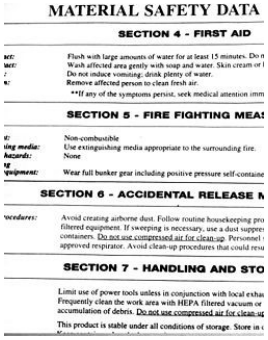
“Safety data sheet”. *Säkerhetsdatablad / ark*

Klipp: A safety data sheet (SDS),[1] material safety data sheet (MSDS), or product safety data sheet (PSDS) is an important component of product stewardship, occupational safety and health, and spill-handling procedures. SDS formats can vary from source to source within a country depending on national requirements.

SDSs are a widely used system for cataloging information on chemicals, chemical compounds, and chemical mixtures. SDS information

may include instructions for the safe use and potential hazards associated with a particular material or product. The SDS should be available for reference in the area where the chemicals are being stored or in use

An example SDS in a US format provides guidance for handling a hazardous substance and information on its composition and properties


MATERIAL SAFETY DATA

SECTION 4 - FIRST AID

Flush with large amounts of water for at least 15 minutes. Do n
Wash affected area gently with soap and water. Skin cream or l
Do not induce vomiting; drink plenty of water.
Remove affected person to clean fresh air.
**If any of the symptoms persist, seek medical attention imm

SECTION 5 - FIRE FIGHTING MEA

Non-combustible
Use extinguishing media appropriate to the surrounding fire.
None
Wear full bunker gear including positive pressure self-containe

SECTION 6 - ACCIDENTAL RELEASE M

Avoid creating airborne dust. Follow routine housekeeping pro
filtered equipment. If sweeping is necessary, use a dust suppre
containers. Do not use compressed air for clean-up. Personnel
approved respirator. Avoid clean-up procedures that could resu

SECTION 7 - HANDLING AND STO

Limit use of power tools unless in conjunction with local exhau
Frequently clean the work area with HEPA filtered vacuum or
accumulation of debris. Do not use compressed air for clean-u
This product is stable under all conditions of storage. Store in

https://en.wikipedia.org/wiki/Safety_data_sheet

SOP "Standard operating procedure" alternativt Standing Operating Procedure. *Standardiserad verksamhetsprocedur.*

Klipp: A standard operating procedure, or SOP, is a set of step-by-step instructions compiled by an organization to help workers carry out complex routine operations. SOPs aim to achieve efficiency, quality output and uniformity of performance, while reducing miscommunication and failure to comply with industry regulations
https://en.wikipedia.org/wiki/Standard_operating_procedure

SOX "*Sarbanes-Oxley Act"*, en amerikansk lag från 2002 om arkivering av räkenskapsinformation i företag i minst fem år, för att undvika bedrägeri och liknande. Se https://digitalguardian.com/blog/what-sox-compliance . Jämför svensk bokföringslag som kräver arkivering i minst sju år.

SQL *"Structured Query Language",* ett standardspråk för databasinformation

T

Talent Acquisition *Rekrytering av personal / talang/ kompetens*

TO-BE "To be" / "Att bli". *Kartläggnings- planeringsmetod för affärsprocesser, komplement till AS-IS (ovan)*

Business process mapping method
Examples: https://www.visual-paradigm.com/tutorials/as-is-to-be-

business-process.jsp
https://www.youtube.com/watch?v=byzFWqkQWS4
http://www.bridging-the-gap.com/to-be-business-process/

U

UL *En amerikansk/global konsult och certifieringsfirma vad gäller säkerhet som ofta anlitas av OSHA. (se OSHA) –*

Underwriters Laboratory – https://www.ul.com/
https://en.wikipedia.org/wiki/UL_(safety_organization)

UAT "User Acceptance Testing" *Testning av programvara med verklga användare, "beta-testning"*

User Acceptence testing https://www.softwaretestinghelp.com/what-is-user-acceptance-testing-uat/

V

VFD "Variable Frequency Drive". Hårddisk med variable/justerbar hastighet.

http://www.vfds.org/what-is-vfd-how-it-works-964803.html

VMI "Vendor Managed Inventory". *Leverantörsstyrda lager*

Klipp: Leverantörsstyrda lager är ett sätt att integrera leverantörer och kunder med varandra för att på så sätt uppnå ett ömsesidigt värdeskapande i försörjningskedjan. Lågvärda artiklar lämpar sig generellt sett bäst för ett VMI-samarbete. Den Amerikanska handelskoncernen Wal-Mart är ett exempel på en organisation som använder VMI
https://sv.wikipedia.org/wiki/VMI

W

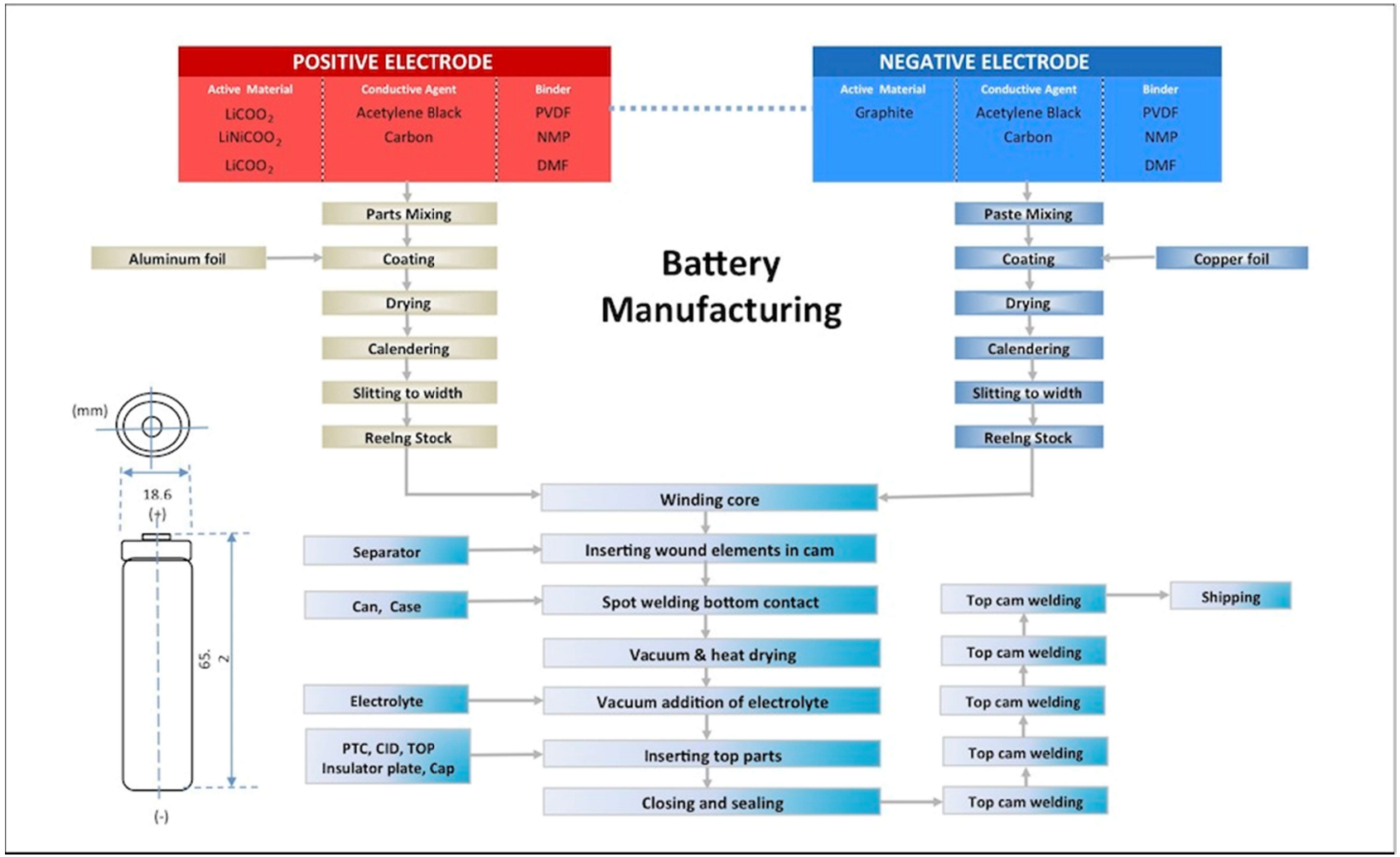
Why-Why analysis *Felsökningsmetod och analys inom Six Sigma-*

Klipp: Why why analysis is a method of searching for and finding the root causes of the problem. The name of the method comes from the main question asked during the analysis: Why? Thanks to asking that question many times it is possible to find real, often hidden causes of the problems. Dealing with real causes prevents the problem from happening again.

The method is an evolution of Fish diagram created by Kaoru Ishikawa. The why why analysis is used mainly in Six sigma, however it can be used in every organization. The idea of 5 whys comes from Genichi Taguchi, who once said that to find the real causes you need to ask why five times. https://ceopedia.org/index.php/Why_why_analysis

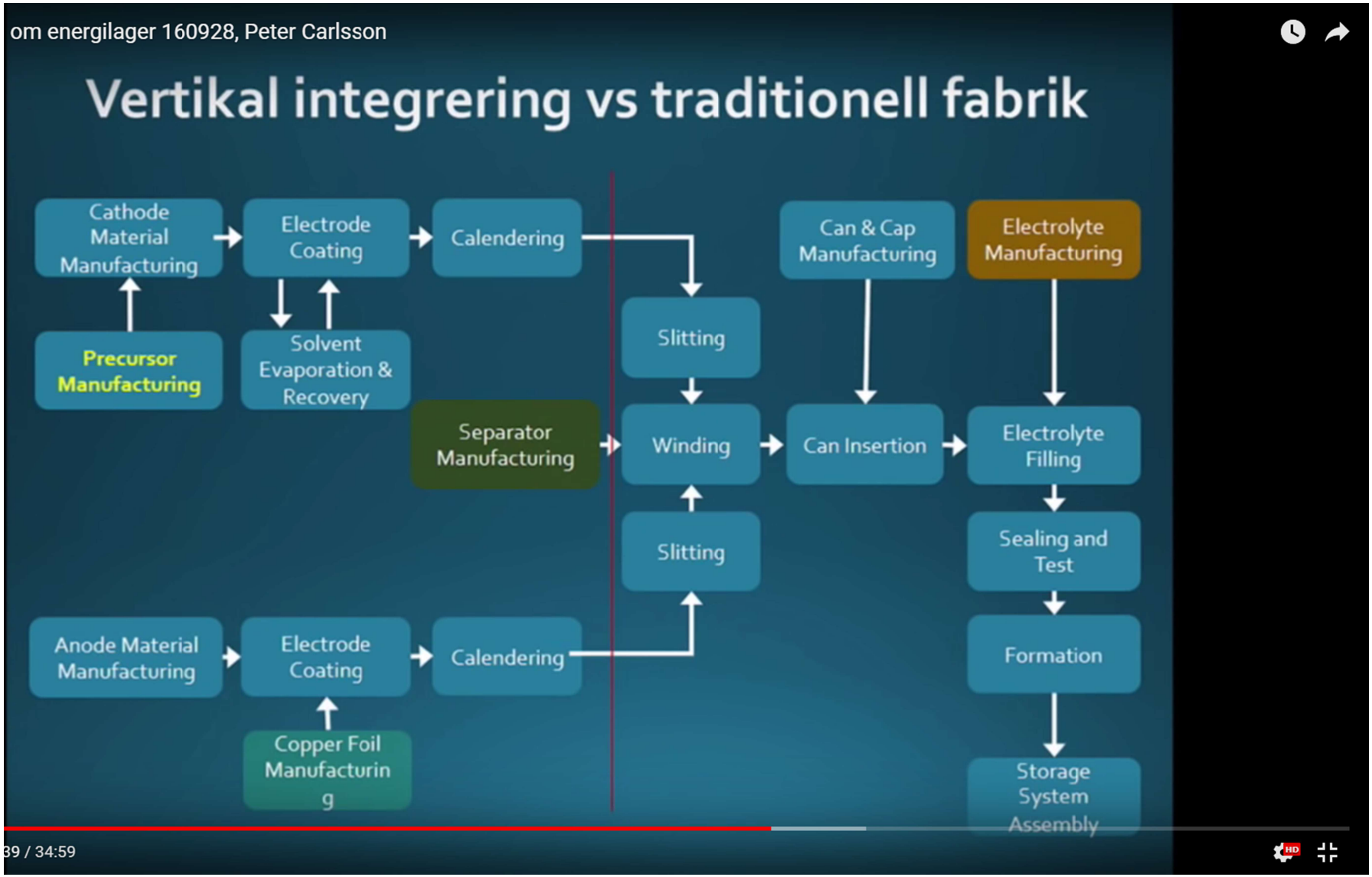
XYZ -

9.0 Tre produktionslayouter i vertikalt integrerade Li-Ion-fabriker


POSITIVE ELECTRODE
Active Material
LiCOO2
LiNiCOO2
LiCOO2
Conductive Agent
Acetylene Black
Carbon
Binder
PVDF
NMP
DMF
NEGATIVE ELECTRODE
Active Material
Graphite
Conductive Agent
Acetylene Black
Carbon
Binder
PVDF
NMP
DMF
Parts Mixing
Aluminum foil
Coating
Drying
Calendering
Slitting to width
Reelng Stock
Paste Mixing
Coating
Copper foil
Drying
Calendering
Slitting to width
Reelng Stock
Battery Manufacturing
(mm)
18.6
(+)
65.2
(-)
Winding core
Separator
Inserting wound elements in cam
Can, Case
Spot welding bottom contact
Vacuum & heat drying
Electrolyte
Vacuum addition of electrolyte
PTC, CID, TOP Insulator plate, Cap
Inserting top parts
Closing and sealing
Top cam welding
Top cam welding
Top cam welding
Top cam welding
Top cam welding
Shipping

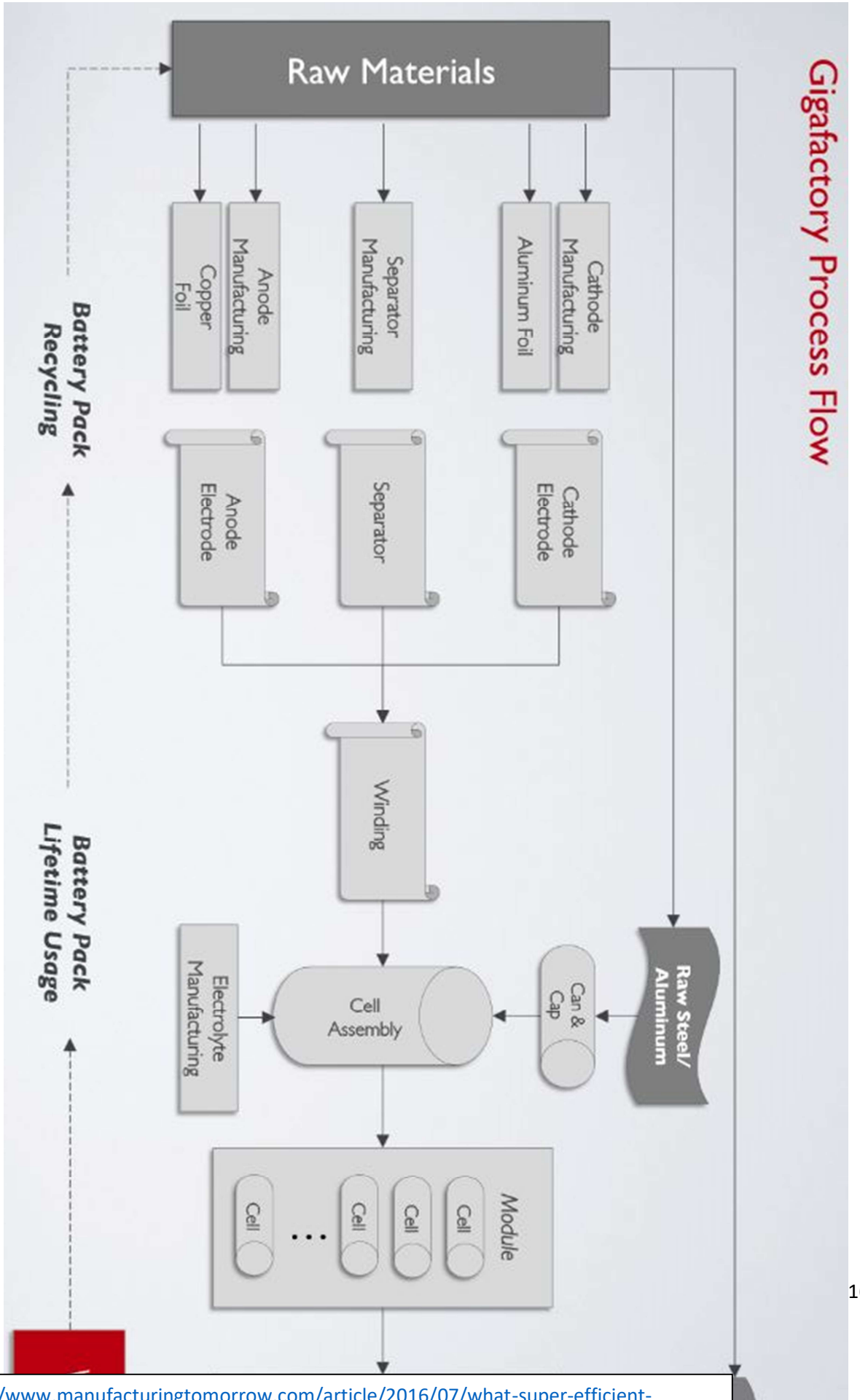
http://chrishillsethenterprises.com/battery/about-lithium-ion-battery-manufacturing/

om energilager 160928, Peter Carlsson



39 / 34:59

https://www.youtube.com/watch?v=OhctRnpNZ9U



https://www.manufacturingtomorrow.com/article/2016/07/what-super-efficient-

10.0 Preliminära reflektioner

Kan då något utläsas av detta referensmaterial för Northvolt 1:s behov?

Det måste ytterst Northvolt själva svara på och allt efterhand förtydliga. Men ska verksamheten ungefär motsvara och organiseras som Gigafactory 1 och översättas till svenska förhållanden, så erbjuds här några reflektioner:

Högskoleutbildning:

Ett kritiskt behov verkar vara **högskoleingenjörer**. Även om denna kategori inte skulle utgöra fler än 10-20% av det totala rekryteringsbehovet så är det ju ändå kritiskt, då nuvarande utbildning knappast ens täcker nuvarande behov, utan Northvolt. **Civilingenjör**snivån är ju också mycket intressant, främst för arbetsledande position, men erfarenhet som högskoleingenjör verkar vara minst lika viktig.

Det verkar kanske inte finnas behov av en särskild högskoleutbildning till ”batteri-ingenjör”, även om vissa annonser söker sådana. **Maskin-, miljö- och kemiingenjörer** motsvarar nog denna behovsprofil; i kombination med fortbildningskurser. Däremot utbildas det för få ingenjörer i jämförelse med detta uppkommande behov. Valbara eller fristående kurser/kurspaket/påbyggnader för ingenjörer om Li-Ion-batteriteknik vore mycket önskvärda.

Det finns utrymme för **personalvetare, ekonomer, data- och systemvetare** också. Existerande utbildningar är nog tillräckliga gällande profil då högskoleutbildningar på denna nivå/längd i allmänhet är generalistutbildningar.

Yrkeshögskoleutbildning:

En del av behovet av högskoleingenjörer ovan, särskilt ”batteri-ingenjörer” kunde kanske täckas av en specialiserad och tillämpad ”batteri-tekniker”-utbildning i kombination med internutbildning.

Andra möjliga profiler för YH-utbildning är

6) Maskinoperatör
7) Logistik- och lagerpersonal (tekniker, arbetsledning)
8) Kvalitets- mätnings- och kaliberingstekniker?
9) Produktionsteknik
10) Säkerhet?

Gymnasienivå, YrkesVux, mm:

Vissa av de arbeten som utannonseras först med högre krav, t ex **maskinoperatör** och **lagerpersonal**, verkar man nu också rekrytera på lägre utbildningsnivå och utbilda i kortare kurser före anställning och sedan på arbetsplatsen. På området **lokalvård och fastighetskötsel** borde det också kunna finnas många arbetsuppgifter som inte kräver lång utbildning. Transportsektorn och **säkerhet/hälsa** likaså.

Rekryteringsfirmor i Reno verkar ha hand om en del av denna rekrytering, och ibland är den nog out-sourcad, men dock arbeten som behöver utföras. Dessa företag annonserar också ibland efter personal för maskinmontering, bygg, mm inklusive **”general worker” och ”production associate”.**

Även för dessa ibland mera tillfälliga kategorier arbetskraft torde en kort grundutbildning eller orientering om verksamheten och dess risker och villkor vara av nöden, kanske även för underleverantörer och entreprenörer. Sådan utbildning ges vid Truckee-Meadows Community College för Gigafactory 1.