



QUALITY CONTROL & PROCESS OUTSOURCING SOLUTIONS FOR BATTERY SUPPLIERS

**QSense – European leader in battery
industry outsourcing solutions**

ABOUT US

QSense is a group of **committed, experienced and highly educated managers, engineers, and specialists** from various industries. Our aim is to provide top quality process outsourcing services for battery and electromobility industries. All our efforts are focused on **quality control and production support through top quality assurance and truly implemented lean approach.**

Since 2015 QSense builds its own innovative **quality control outsourcing service**. Driven by **passion, accountability and professionalism** is always focused on creating more-than-expected value for the customer.



SCOPE OF WORK

- QUALITY CONTROL
- QUALITY SUPPORT
- PRODUCTION SUPPORT
- LOGISTICS SUPPORT
- HR SUPPORT
- SOFTWARE

WHY US?



**OVER THE YEARS IN SUPPORTING LEADING
BATTERY MODULES MANUFACTURERS.**

6 000 000+
MODULES CHARGED, INSPECTED,
SENT TO CUSTOMER

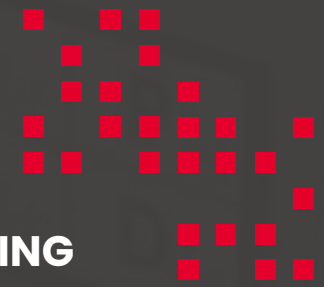
76 700+ **MWh**
CHARGED

- 1000+ battery industry experienced quality controlers
- 500 000+ man-days in battery industry
- 60+ different levels battery managers on duty
- 220+ battery industry related projects

QSENSE SERVICES VS BATTERY PROJECT STAGE

Process	Development & tests	Focus on effects	Focus on costs	Focus on smooth transition
Human capital	Training & learning	Training & focus	Efficiency & safety	Efficiency & safety
Lean	Solutions	Effects	Acquisition	Next stage challenges
CPU	High	Improved	Compressed	Smooth transition
Independence	Interaction	Almost independent	Independent	Melted
	Greenfield phase	Standardization phase	Optimisation phase	Finalisation phase

QSENSE SUPPORT FOR BATTERY MANUFACTURERS



CELL MANUFACTURING

CELL ASSEMBLING

- Material delivery and input for production lines
- Electrolyte refueling

CELL FORMATION

- Visual control & sorting
- Internal logistics

PACKS MANUFACTURING

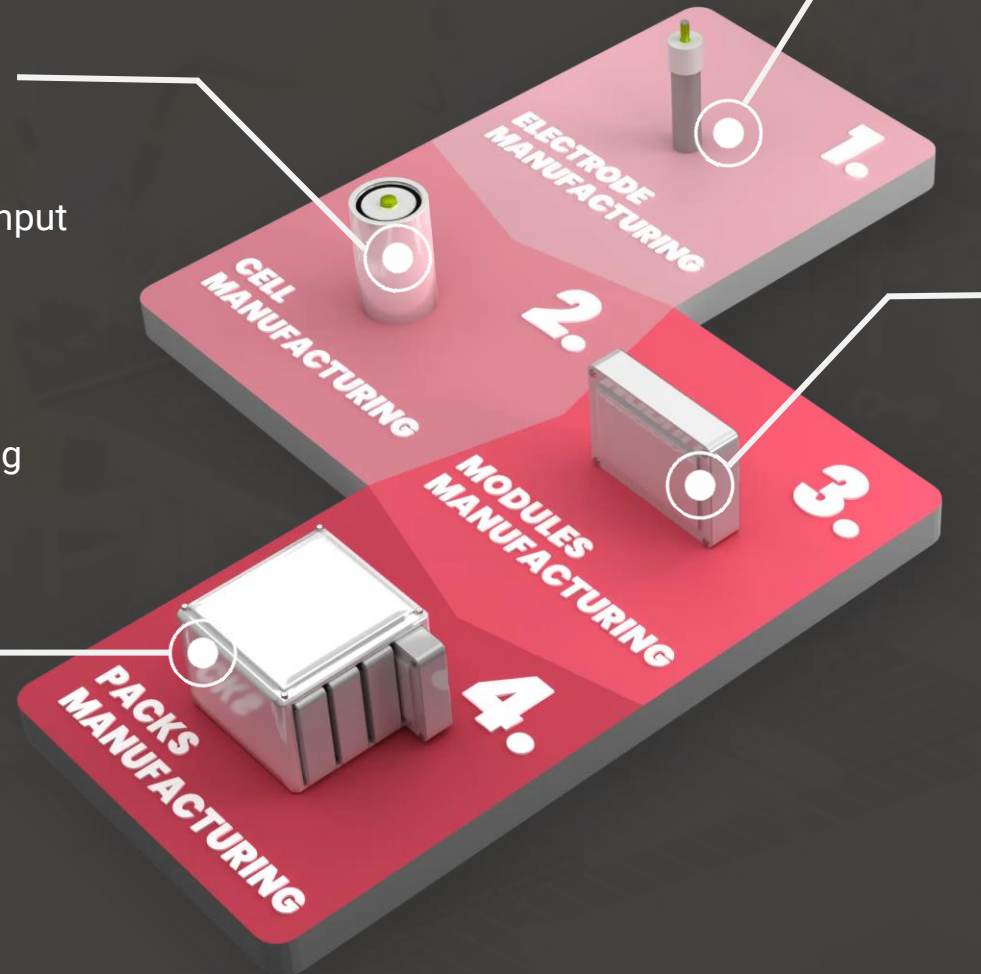
- Packs functional measurements
- Packs disassembly & discharging

ELECTRODE MANUFACTURING

- Cores & bobbins cleaning
- Automatic lines support
- Scrap management

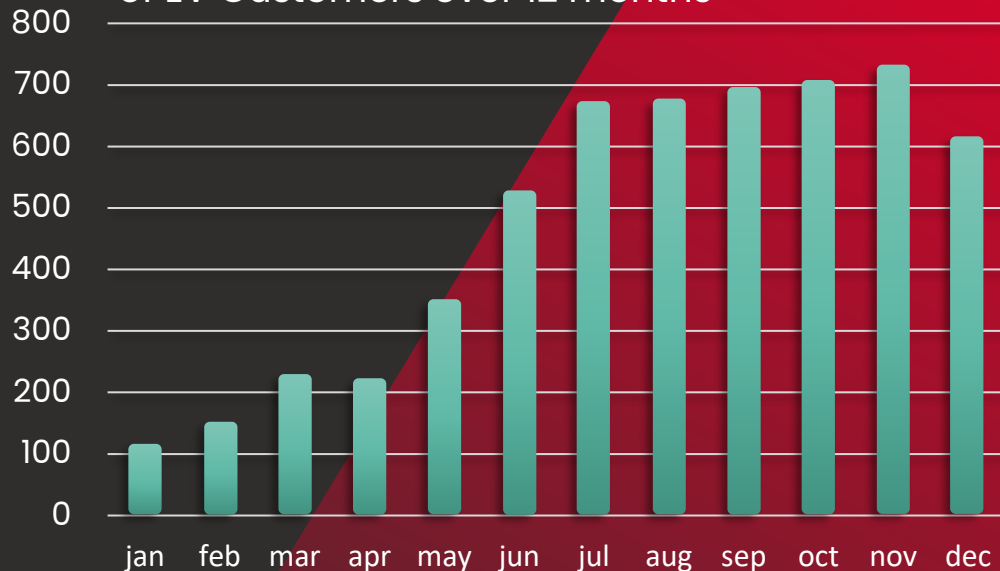
MODULES MANUFACTURING

- Production & assembly line support
- Modules charging & discharging
- Internal Logistics, stock management
- Functional measurements (OCV, IR)
- Visual inspection (incoming and final)
- Equipment & machines, technical maintenance (TPM)



PROVEN RECRUITMENT, TRAINING & ONBOARDING PATTERN

Number of workers trained and onboarded to one of EV Customers over 12 months



QLEARN

QLearn is a training system for quality control and quality awareness including traditional and VR modules.

STAFFING

- Controllers and operators
- Quality Engineers (SQE, CCE, PQE)
- Auditors
- Managers
- Training and excellence centre
- Employee friendly onboarding process
- Employee management app

QSENSE SUPPORT FOR BATTERY MANUFACTURERS



CUSTOMER SERVICE SUPPORT

- Material sorting & rework
- Claims analysis
- Identification and full traceability of modules
- Isolation of non-conform products

FAILURE ANALYSIS SUPPORT

- Modules disassembly
- Cell separation and defect analysis
- Voltage measurements



OVER
6 000 000
MODULES

- » Charged
- » Inspected
- » Sent to Customers

QUALITY CONTROL



- **Comprehensive modules quality control**
- Visual inspection
- Specialistic measurements
- Quality assurance
- Work standardization
- Customers claims analysis
- Resident engineering
- Reporting
- Quality Wall

1000+ quality inspectors already
deployed at the Customer's premises

QWALL®

State-of-the-art quality control IT solution

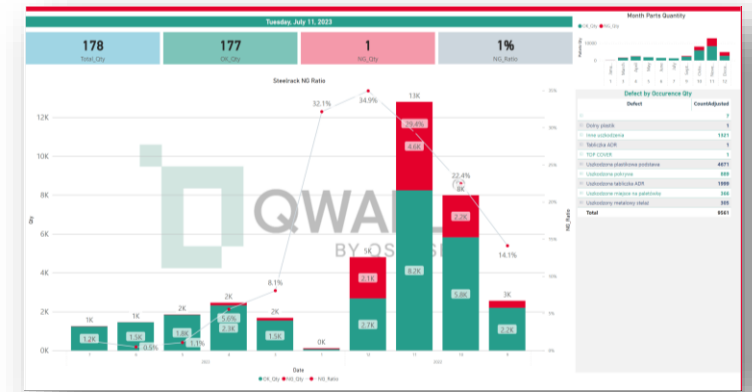
KEY FUNCTIONALITIES

- DATA
- FLEXIBILITY
- DOCUMENTATION
- INTEGRATION
- ACCESS
- ANALYSIS
- DATA ACQUISITION
- REPORTS

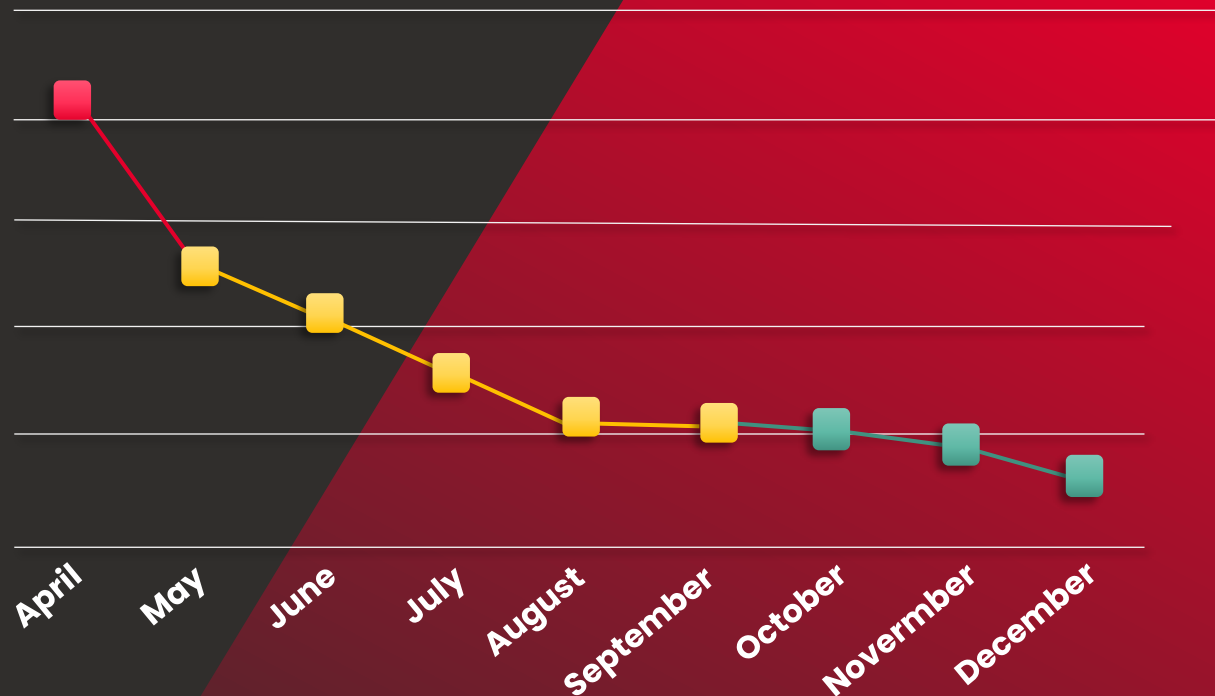
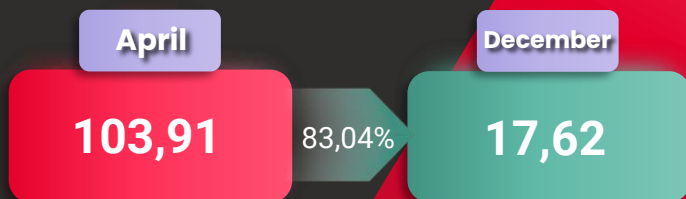


DYNAMIC KPIs

QWall® provides KPIs based on customer requirements.



COST & PROCESS OPTIMIZATION



ACTIVITIES

Process and cost optimization achieved with:

- Standarization
- Material flow & layout improvement
- Equipment design
- Tools modification
- Time study & bottle neck elimination
- Idea Qsense (Kaizen Methodology)

ASSEMBLY – 61% FASTER



Recruitment

Quality

Sorting

Logistics

Maintenance

Software Development

Visual Inspection

**Dedicated IT
solutions**

**Production
support**

Repack

**Comprehensive
Management**

Rework

Standardization

Procurement

Greenfield

**Real time data
reporting**

Stocktaking



Visit our site



Thank you



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