



Supply Chain & Operations

Bodo Zeug, EVP SCM

Global supply chain footprint



Supply chain & operations

- **Supply chain** – inbound and outbound, planning and forecasting
- **Manufacturing** – in-house and outsourcing
- **Procurement** – supplier selection and negotiation
- **Product cost out** – design to cost and value engineering
- **Quality** – manufacturing, supplier and product quality

Asset light strategy is geared to optimize cost, cash and performance

How to optimize

Cost

- Move to best cost countries and leverage labor arbitrage
- Leverage purchasing power of top Tier 1 suppliers
- Keep strategic and customized components under our own control
- Collaboration with suppliers on design to cost (DtC)

Cash

- Less CAPEX due to less investment and maintenance
- Less work in progress (WIP) at Landis+Gyr
- Direct shipments lead to less operating working capital (OWC)

Performance

- Flexibility in load and factory utilization
- Dual sourcing (sites) for business continuity
- Shorter supply chain and shorter lead-times with direct shipments
- Use EMS expertise, which they have gained from other industries

Guiding principles

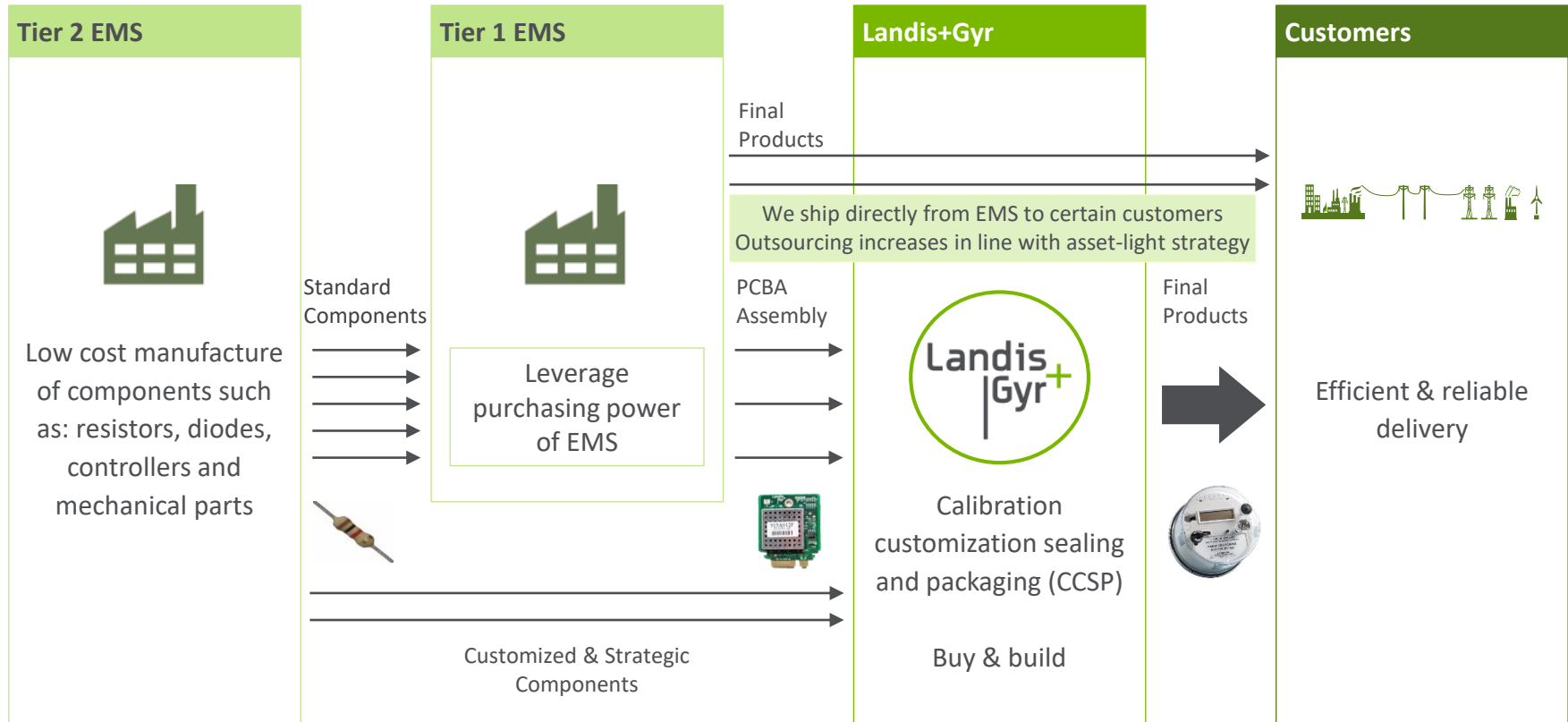
- Move to best cost countries along with our Tier 1 suppliers (e.g. Poland, Romania, Vietnam, Malaysia) where we are not already (e.g. Mexico)
- No new factories, use Tier 1 suppliers' facilities instead
- Keep specific test equipment and know-how under Landis+Gyr control
- Low volume / high mix products manufactured in house as too complex for outsourcing e.g. Corinth
- Keep value chain in country where there is a regulatory need e.g. South Africa, Brazil, China, India, France

We have a flexible, modular and robust supply chain which enables outsourcing at any stage of the production flow



- Landis+Gyr customized design
- Procurement of plastic and metallic parts
- Landis+Gyr design and test specification
- Assembly of PCBA by electronics manufacturing services (EMS)
- Handling of standard components via EMS
- Assembly at Landis+Gyr manufacturing site
- Alternatively, assembly at electronics manufacturing services (EMS)
- Calibration, customization, sealing and packaging (CCSP) at Landis+Gyr manufacturing site
- Alternatively, at EMS dedicated sites under our supervision

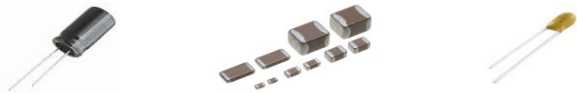
We leverage the cost structure and purchasing power of our Tier 1 EMS partners



We have implemented measures to minimize the impact of the industry-wide components shortage for Landis+Gyr

Situation at Landis+Gyr

- Seller's market: Since 2018, global electronic component shortage due to high demand in other industry sectors (e.g. automotive, IoT)
- Landis+Gyr uses about 15'000 different components among which only 100 passive components are impacted (mainly capacitors, resistors and inductors)
- For some of these critical components lead time reached 40 weeks



- Incremental costs associated with supply chain constraints reduce Adj. EBITDA USD 12m in FY18 H1
- Temporary in nature but still a challenge for FY18 H2

Measures to secure deliveries for FY18 H2 and beyond

Leverage EMS

- Ongoing intensive collaboration with EMS to mitigate lead time for critical component suppliers

Safety stock

- Continue the buffer stock initiative at the EMS's / Component manufacturers
- Expand safety stock beyond key components to include standard, passive products

Visibility

- Increase forecast visibility at EMS from current 12 months to 24 months
- Increase period with order coverage between Landis+Gyr and EMS and between EMS and component suppliers

Alternative components

- Close interaction between Landis+Gyr (supply chain and R&D), EMS, component suppliers to identify and qualify alternative sources/technologies for critical components

Reliable quality delivered through our Zero Defect Initiative (ZDI)

Description of the initiative

- Ongoing, continuous improvement initiative, running over multiple years
- Aiming to proactively address structural and systemic quality issues and reduce associated costs
- Key enabler of outsourcing and of our Asset Light strategy

Development of 2 pillars

- Adapted quality management system standard from the automotive industry (VDA 6.3) to ensure best in class collaboration with a wide base of suppliers
- Focus on business areas with highest potential to reduce Non-Conformance-Cost (NCC)
- Continuous improvement and adjustment with the learning from field experience

Supplier pillar

- Clear quality requirements for suppliers with quality assurance agreements (QAA) and production part approval process (PPAP)
- Over the past two years built up a team of trained and certified PPAP employees (>200) managing our suppliers at all levels
- Standardized qualification of suppliers (VDA 6.3)
- Number of VDA audits increased by 54% from 2016 to 2018
- Global and standardized supplier management process (with QBRs)
- Ensure ongoing reliability: for all product lines batch test of 1'000 hours

Design pillar

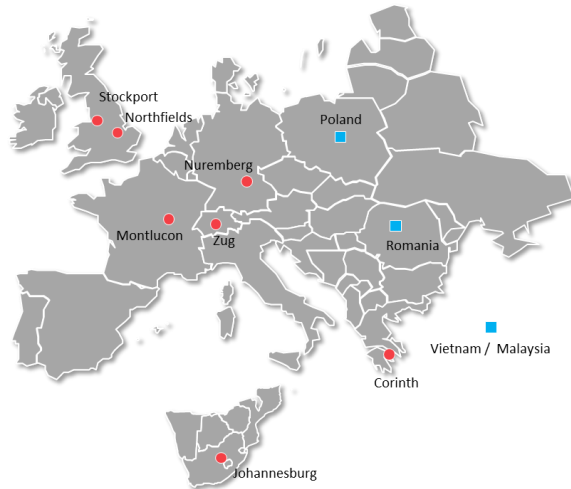
- First year product reliability has improved
- SW test automation improvement
 - Coverage extension by more than 30% since last year
- Contingency concept for SW with over the air (OTA) update
- Globally harmonized NPI hardware design reviews
 - Developed 355 safety/design/manufacturing elements

Project Lightfoot will overachieve IPO commitment, delivering USD 25m yearly run-rate savings by FY20

Description of the initiative

Shifting to an asset light set up:

- Introduction of a dual source/site using existing EMS sites
- Optimize / ramp-down / close selected manufacturing facilities



- Landis+Gyr manufacturing sites
- Major EMS sites

Project status

Implemented

- Transferred production of UK smart meters to EMS from Stockport and cease production of electric meters in Northfields
- Focused Montluçon on production of Linky meters and transferred all other products to Corinth

In progress

- Further ramp down Zug and transfer to Corinth
- Further transfer to EMS underway (several sites)

Savings

Commitment

- IPO: USD 20m of run-rate savings by FY21
- Revised: USD 25m of run-rate savings by FY20

Savings

- USD 5m already achieved and included in gross margin
- USD 20m still to be delivered, mainly in FY19 and FY20

Landis+Gyr systematically drives out product cost with a dedicated value-engineering team

Product cost structure (typical meter)

General overhead & profit (suppliers)	5 - 7 %
Logistics <ul style="list-style-type: none"> Packaging Shipping 	2 - 5 %
Value add <ul style="list-style-type: none"> Assembly Testing 	10 - 15 %
Mechanical bill of materials (BoM) <ul style="list-style-type: none"> Housing Switches 	20 - 25 %
Electrical BoM <ul style="list-style-type: none"> Capacitors Resistors Memory PCB 	50 - 60 %



How Landis+Gyr drives product cost out

- Should-cost analysis
 - e-tendering
-
- Directly negotiate shipment terms
 - Improve supply chain setup (direct shipments)
 - Packaging design optimization
-
- Should-cost analysis of manufacturing process steps
 - Design for manufacturing
 - Improved supply chain setup (best cost countries)
-
- Long term contracts with in-built cost reduction year over year
 - Dual / multiple sourcing
 - Deploy latest technologies
 - Harmonization and standardization
 - Design to cost
 - Cost benchmarking and linear performance pricing

Execution

- Cost down program for six volume products in FY18
- Targeted at existing contracts in key AMI markets
- Real product cost down example
 - Achieved 17% cost reduction from FY17 to FY18
 - On track to further reduce cost by 15% in FY19

