Play on strengths. Improve. Perform.

Dr. René Lenggenhager, CEO Comet Group
We are a Swiss company with high competency in three leading technologies ...
The Comet Group at a Glance

… enabling faster, more efficient processes and safer products in many industries
Strong balance sheet
Clear strategy & business model
Flexible capacities
Attractive growth drivers
Core competencies
Positive prospects

+ 20% investments in R&D vs. 2017
Production building expansion FLA completed as enabler of further lean initiatives
Profit improvement addressed in IXS and EBT
Improvement in operational efficiency
Non-recurrence of 17 CHFm at EBITDA level in 2019

IXM: new iVario/tube bundle, launches for security market
IXS: innovations for Industry 4.0
PCT: new RF generator
EBT: Egg Case

Core competencies
Flexible capacities
Strong balance sheet
Attractive growth drivers
Clear strategy & business model

Solid base
Sustainable Improvement
Strong pipeline
Status Update

Thanks to its core competencies, the Comet Group has grown into an important partner to key customers in various industries.

Sales evolution since the company was founded
Common core competencies are instrumental for the leading solutions in all three technologies.
Digitalization of products, processes and services will offer even more synergies tomorrow

Comet products can create additional value as sensors / data generators

Similar approach for data science across Comet Group (methods, capabilities, data technologies)

Our customers’ end user goal

Optimized production processes at customer site

Comet Group products can create additional value as sensors / data generators:

- RF power modules
- X-ray modules/systems
- ebeam modules

Optimized production processes at customer site:

Data

- Algorithms and patterns

Insights

- Adjust

Our customers’ end user goal

Status Update

Comet Group  |  Dezember 2018

7
Similar data processing methods / algorithms will create even more value and learning experience between the businesses

Group-wide «future-ready» excellence

Group-wide value-added

Data processing know-how (in development)

Application know-how

Technologies

X-ray
- Non-destructive testing
- Computed tomography
- Security inspection

RF Power
- Plasma control

Ebeam
- Treatment of surfaces
- Sterilization
- Inactivation

Core competencies

High vacuum, High voltage

Materials science
The Comet Group growth engine: Strong and diversified on-going business
Our additional levers for growth beyond 2020

Digitalization
Smart factory
Smart products & services
Smart processes

Diversification
Regions
Applications
Products & Services

Go-to-Market
Customer centricity
Market access
Cross-selling (Lab One)

Speed & Agility
Leadership
Culture
Processes
Competencies
Status Update

Working on the growth engine we have made progress across all divisions
Status Update

Working on the growth engine we have made progress across all divisions

EBT
Sterilization
Material modification

PCT
Semiconductors
Microchips & Sensors
Displays

IXM
Security
Aerospace
Electronics
Medical

IXS
Electronics
Automotive / Foundries
Aerospace

% Group sales H1 2018
PCT: Current slowdown – But continued high demand for joint development projects; strong drivers based on growing data storage and processing demand

Position

One of the leading suppliers of RF power technology globally

_strengths_

- The only manufacturer worldwide to develop and produce all core components of the RF Delivery System
- Over 50 years of expertise in the field of VacCaps, heart of the RF matchbox
- Flexible cost structure

_Potential_

Attractive potential by expanding RF generator portfolio, and on track with generator → broaden application and customer base

Source: Comet
Manage Profitability
Current postponement of fab capex projects caused a slow-down in the semi industry
Comet with flexible cost base to adapt to market

PCT manages the current cycle
Costs:
Reduction of variable costs, e.g. up to 50 % in Flamatt
Operations: Quick wins with lean/Kaizen projects

Be ready for the next ramp
After the ramp of the last three years, PCT is now able to pursue postponed projects

Billings SEMI North America, 3 months average
Despite current attenuation in the market, demand for semiconductor is basically robust.

Growth of data continues

Source: Applied Materials model based on forecasts published by Cisco, Intel, Western Digital
Growth Initiatives

Example: Expanding RF power portfolio from 2D to 3D NAND

Multiple patterning and 3D NAND high-volume manufacturing have significantly increased the number of deposition and etch processing steps.

3D NAND: longer and more difficult etch processes are requiring a wider range of power solutions.

140 layer 3D NAND will become a reality by 2021

Opportunity: Technology will spur the demand for tools

Challenges rise with number of layers

Source Graphics: Applied Materials / Lam Research
Interconnected RF unit to solve future challenges

Future processes in SEMI will require:
- advanced RF control systems
- higher measurement accuracy
- increased repeatability

Integrated RF systems from COMET will offer:
- Data driven process analysis and optimization
- New features for advanced RF plasma process control
- Flexible and quickly customizable RF solutions
1. Remain preferred innovation partner for key customers
2. Optimize R&D processes for accelerated time to market (Smart lab)
3. Prepare new production facility for next-generation generators
4. Market intro of new RF generator (for RF power system)

Introduce further lean, automated processes, esp. in new building in CH
Keep flexible cost base and readiness for ramp-up
Status Update

On-going business IXS: Exciting business with attractive potential

One of the leading suppliers of industrial x-ray systems globally

Position

✓ In-depth expertise in complex industrial applications
✓ Best end data
✓ Large global service and distribution network

Strengths

Potential

⇒ Leverage x-ray as sensor with highest information density in combination with machine & deep learning to expand to new applications

% Group sales H1 2018

Addressable market
Current market share

CHF 760m

Source: Comet

Source: Yxlon
### Status Update

IXS profit improvement program on track, increasing agility and strengthening organization for growth from 2020 onwards

<table>
<thead>
<tr>
<th>1. Reprioritization</th>
<th>Status of implementation to achieve EBITDA margin of 6% in 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reprioritization and acceleration of projects to renew product portfolio</td>
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</tbody>
</table>

| 2. Workforce reduction | |
|------------------------| |
| 27 positions in Germany | |
| Contractors | |

<table>
<thead>
<tr>
<th>3. Increase in efficiency</th>
<th>On-going mid-term program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimized organization and adjustment of processes</td>
<td></td>
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<tr>
<td>Further saving in operations</td>
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</table>
Status Update

Increase efficiency: Two examples of important groundwork done to strengthen operations and speed up time to market

1. End-of-line checks
   - Warranty cost: about -15%
     starting end of 2018

2. Lean pilot introducing tact
   - Throughput time: about -30%*
     starting end of H1 2019
   - Working hours: about -20%*
     starting end of H1 2019

*for Cheetah/Cougar EVO
Status Update

Portfolio renewal on track, first positive effects, focused pipeline

- **+80%** OI compared to 2017
- **+10%** OI vs. old systems
- **+2** Global Technology Awards
- **FF 20/35 CT**
- **Cheetah / Cougar EVO**
- **WI26G**

First orders

4 new releases for Industry 4.0 scheduled for 2019

Substantial additional new orders from 2020 onwards
Example: Digitalization, Big Data and Data Science push for extension of competencies in software

DATA IS THE NEW OIL
AND INTELLIGENT INFORMATION IS THE NEW CURRENCY

- Extract
- Refine
- Monetize

Hardware
(Sensor)

Software
(Intelligent data)
Creating value from data analysis will allow IXS to expand its business in future.
IXS: Enabler for new production methods

Additive Manufacturing: Support along the process chain → CT enables 3D printing

- **Qualification of powder**
- **Quality assumption via CT scan of test pieces**
- **Reverse Engineering**
- **Qualification of printing process via CT**
- **Detection of defects via scan**

New field of application | Existing field of application
Prediction of production process behavior: Artificial intelligence prevents defective parts before production
IXS priorities 2020

1. Sustainable development of organization under new leadership

2. Consistent and timely introduction of planned product releases and upgrades

3. Further develop and upgrade metrology as a feature

4. Enhance data analysis skills to support process improvement for customers

Build on lean and agile processes implemented in 2018 to enable faster time to market and higher efficiency while also increasing ROI.
Status Update

On-going business IXM: Well-positioned for continued growth, advancing business under new management since January 2018

Position

Clear market leader in non-destructive testing and security with tubes

Strengths

✔ Superior industrial metal-ceramic X-ray tubes
✔ In-depth, unique process know-how and ability to deliver tailor-made solutions to OEM customers
✔ Deep understanding of OEM needs, thanks to IXS business

Potential

◇ Expand into adjacent markets based on product portfolio expansion

% Group sales H1 2018

Addressable market (modules)
Current market share

X-RAY MODULES

15%

CHF 280m

Non-destructive testing (NDT)
Security inspection
Other applications

Source: Comet
Non-Destructive Testing

Opportunities by exploring the x-ray data chain

X-Ray Module

Detector in partnership

X-ray systems

Non-Destructive Testing

Data

Information

Inspected part
The perfect x-ray tube portfolio for security applications

Performance optimized

Cost optimized

Stand-alone

Integrated

New

IGX (H1/2019)

Goods inspection
New optimized solution for a price-sensitive market with strong competition
Our success formula for the Future – “Less is More”
IXM priorities to 2020

1. Exploit existing portfolio to grow with the bundle (tube & generator)

2. Launch of cost-optimized security products

3. Expand product range to explore new and adjacent markets

Operational excellence; expand lean activities, lead buyer concept, global logistics, keep flexible cost base
Realigned EBT business: Start-up business based on strong strategic customers and attractive further long-term potential

Future-oriented technology based on solid know-how

- Only supplier of compact sealed lamp to be integrated
- In-depth expertise in complex industrial applications
- Energy-efficient and resource-saving, allowing more sustainable processes for its partners

Implement new cost-optimized operating model, expand to next applications identifying strong global partners (e.g., Egg).

Source: Comet
Status Update

EBT: New model with focus on promising ebeam engines

FROM

| Addressing OEMs and end customers |
| Development of completely new markets |
| Sizeable advance investments for developing new applications |
| Systems and engines |

TO

| Addressing OEMs only |
| Scaling of existing market access, know-how and products into adjacent applications |
| Risk-adjusted, sustainable financing |
| Focus on strong, promising engine portfolio |
| Strong collaboration with partners |

New Focus

EBT ebeam Engines
produced in Flamatt

Reducing losses by 12 CHFm in 2019
Status Update

Strong partners: Bühler - Laatu™, sustainable microbial reduction on dry food using ebeam technology

What makes Laatu™ stand apart?

- World’s first non-thermal, non-chemical microbial reduction solution
- Preserves food quality better than any other technology
- Environmentally friendly
- Affordable

Source: Bühler
Commercial liquid food packages produced with ebeam technology

Cornerstone for the future equipment platform

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Aseptic</th>
<th>Chilled</th>
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<tbody>
<tr>
<td>Hyperspeed</td>
<td>510</td>
<td></td>
</tr>
<tr>
<td>E3/Compact Flex</td>
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<td>E3/Speed</td>
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<td>ETV</td>
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1.5 Bio

Tetra Pak: Committed to electron beam technology
Status Update

New promising case: Egg shell sanitation with first positive results

Field tests with Bell Food Group

- Very high bioburden reduction (4-5Log)
- Spore inactivation (4Log)
- Indication of lower embryo mortality
- Indication of improved hatching success
- Slight indication of improved body weight gain

Next steps

- Further tests with other partners in preparation
- Choosing OEM for manufacturing and engineering
- Use high interest of end customers to engage in closer collaboration
Focus on scalability, example sterilization

- Egg shell sanitation (hatching eggs)
- Bühler Dry food granulation (Laatu machine)
- Tetra Pak Foundation – aseptic liquid food packaging – carton-based
- Market access
- Extended partnership
- Fusion of know-how
- Know-how (dose sensors, on-line process control, dosimetry)
- Skan: Sterilization pharma

Status Update
EBT priorities to 2020

1. Tetra Pak, Bühler and other partners: position EBT as solid and reliable development partner

Operational excellence and reliability, increase efficiency and reduce relative cost level

2. Continue Egg case

3. Develop partnerships with OEMs

4. Scale know-how, market access and products

Start of risk-adjusted model 2020
Summary and Outlook
Strong base; right priorities to 2020

- Strong base of shared core competencies
- Strategy 2020 on track; actions taken to address challenges
- Clear priorities to deliver to deliver on 2020 strategy for each division
Summary

Comet group well positioned to address attractive market potential
Outlook

2018
Net sales between 430 to 440 and an EBITDA margin between 7 and 9%

2019 and 2020
For 2019 and 2020 the Comet Group is not publishing revenue and EBITDA targets, in view of
- the geopolitical uncertainty
- the lack of visibility especially in the semiconductor market
- the structural changes in the ebeam business

Comet Group enters fiscal year 2019 on a more robust base
Within the usual process in regard to the next period, Comet is working on the longer-term strategy both at the Group level and at the divisions level, both linking closely.
Create value-added to 2020 and beyond

Strong core competencies
Strong growth drivers
Attractive potentials based on product portfolio expansion
Leveraging
- Digitalization
- Diversification
- Go-to-Market
- Speed & Agility

Sales evolution

1948
X-ray
Vacuum Capacitors

1948
2018

Strategy 2020
IXS acquisitions FineFocus, Yxlon
Thank you for your interest.