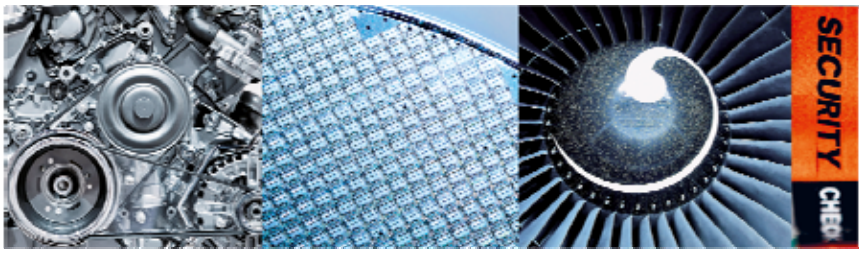
November 29, 2011

Investor Day 2011
„Innovation & Customization“



Ronald Fehlmann

CEO COMET Group

COMETGROUP
Technology with Passion

Agenda Vormittag

Zeit	Thema	Referent
10.00	**Begrüssung** **Einführung: Innovation & Customization at COMET Group**	R. Fehlmann CEO
10.20	**Differenzierung durch innovative Kundenlösungen**	**Dr. Joseph Kosanetzky** Head of Division Systems
10.35	**Vollautomatische CT-Prüfung von Turbinenschaufeln** Q&A	**Benjamin Henkel** Stv. Prozessbevollmächtigter für Röntgen und CT MTU Aero Engines Zerstörungsfreie Prüfverfahren (TAFP)
11.10	Pause	
11.20	**Führung durch die Produktion und das Democenter YXLON**	**Dr. Joseph Kosanetzky** Head of Division Systems
12.20	Lunch-Buffet	Alle

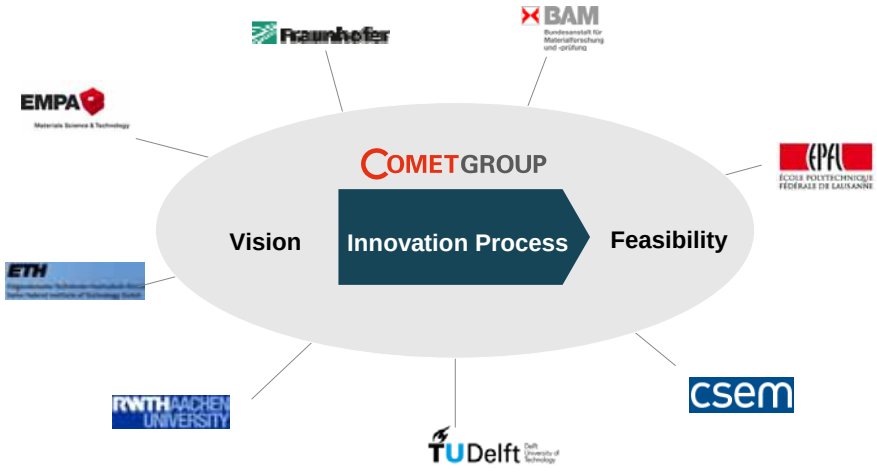
COMETGROUP
Technology with Passion

Agenda Nachmittag

Zeit	Thema	Referent
13.30	**Kooperation als Brennstoff für Innovationen**	**Charles Flükiger** Head of Industrial X-Ray
13.45	**Innovative Electron Beam Technology for Aseptic Packaging Applications** Q&A	**Laurence Mott** Vice President D&E Packaging Solutions AB Tetra Pack
14.20	**Pause**	
14.25	**Globales Innovationsmanagement**	**Michael Kammerer** Head of Plasma Control Technologies
14.40	**Vacuum Capacitors in Growing Manufacturing Markets** Q&A	**Dr. Mike Cooke** Chief Technology Officer Oxford Instruments
15.15	**Zusammenfassung und Ausblick**	**Ronald Fehlmann** CEO COMET Group
15.30	Ausklang, Networking und Kaffee	

Innovation at the COMET Group

From vision to feasibility



Innovation at the COMET Group

Characteristics of innovation at COMET

Cross-departmental

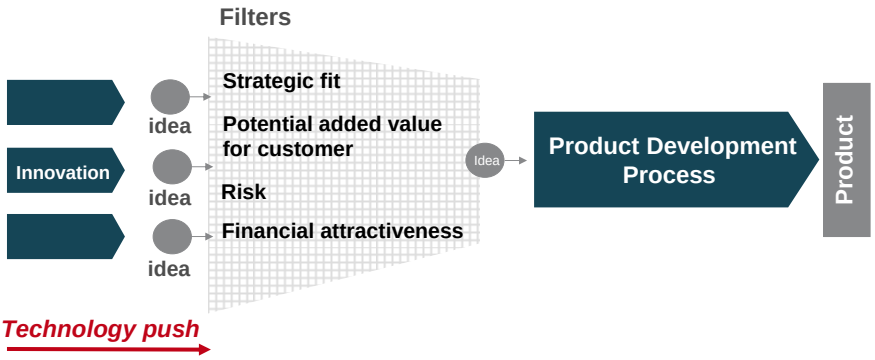
Efficient network organization

Informal and almost paperless

Consciously “chaotic” but target-oriented

Product Development at the COMET Group

From feasibility to product



Product Development at the COMET Group

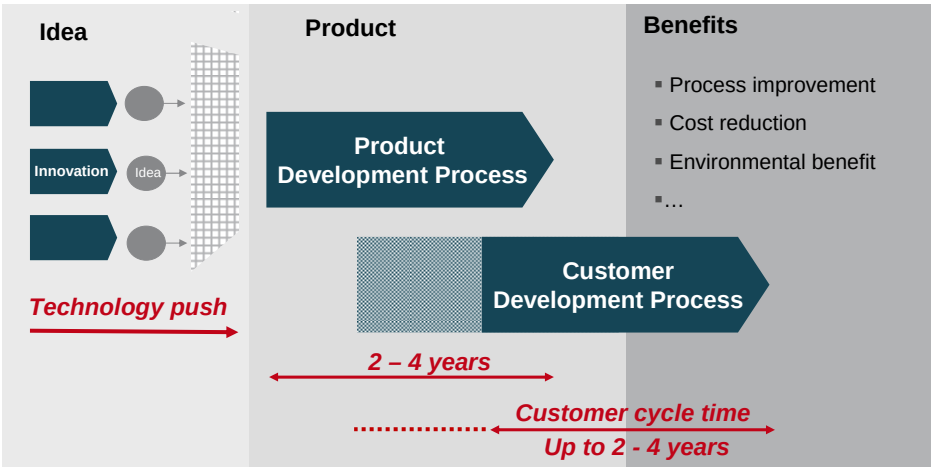
Characteristics of development at COMET

Department specific

Disciplined

Entrepreneurial
- **design to cost**
- **short cycle time**
- **strong adherence to delivery dates**

Customizing Products at the COMET Group

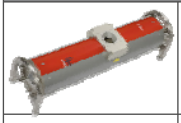


Product Development at the COMET Group

What defines the customer cycle time?

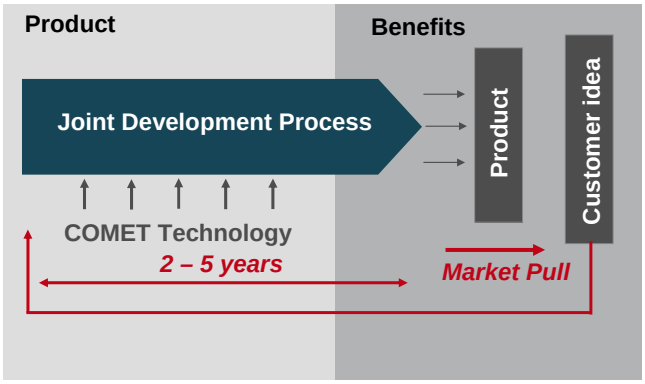
- **How disruptive is the technology?**
- **To what extent does the technology trigger customer internal changes?**
- **How normative is the market environment?**
- **What is the market culture?**
- **How integrated is the customer?**

Examples for „Technology Push“

Product		COMET / YXLON Product Development Time	Customer Cycle Time
	**High Energy (600 kV)**	3 years	2-3 years
	**Low Energy (< 100 kV)**	2 years	1-2 years
	**High Frequen-cy RF Match Boxes / Generators**	12 to 18 months new IP incl. match 2 to 4 months for derivative match 12 to 24 months for generator	2 to 4 years (Customer Systems)
	**Software** ADR **Hardware** HDR	Depending on complexity 1.5 to 3 years 0.5 to 2 years	In case of application programming / tuning: 2 to 4 months

Customizing Technology at the COMET Group

Collaboration model: From customer idea to joint solution



Drivers

- Process improvement
- Cost reduction
- Environmental benefit

Customizing Technology at the COMET Group

Characteristics of the collaboration model

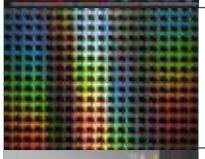
Trust

Shared Vision

Complementary Skills

Cultural Fit

Examples for „Market Pull“

Technology		Vision / Need
	**e-beam**	Sterilization without chemicals
	**High Frequency / High Voltage**	450 mm wafer size
	**Laminography**	3 D images of planar surfaces

COMET Group – Key Facts

- About 100 employees (13%) in R&D worldwide (June 2011)
- 10-12% of Group net sales spent on R&D on average per year
- About 15% of Group net sales generated with new products (not older than 3 years)

A warm Welcome to our Special Guest Speakers

	Benjamin Henkel Stv. Prozessbevoll-mächtigter für Röntgen und CT, MTU Aero Engines (TAFP)	MTU Aero Engines, Germany's leading supplier of aero engine sub-systems and modules with exhaustive experience regarding fully automated CT inspection of turbine blades using an YXLON system
	Laurence Mott Vice President D&E Packaging Technology Tetra Pak	Tetra Pak, leading global food packaging company and appreciated partner for innovative e-beam technology
	Dr. Mike Cooke Chief Technology Officer Oxford Instruments Plasma Technology	Oxford Instruments, leading global supplier of high tech tools and potential partner for customized design and supply of the RF automatch and RF generator

Das COMET Group Executive Team

Agenda Vormittag

Zeit	Thema	Referent
10.20	**Differenzierung durch innovative Kundenlösungen**	**Dr. Joseph Kosanetzky** Head of Division Systems
10.35	**Vollautomatische CT-Prüfung von Turbinenschaufeln** Q&A	**Benjamin Henkel** Stv. Prozessbevoll-mächtigter für Röntgen und CT MTU Aero Engines Zerstörungsfreie Prüfverfahren (TAFP)
11.10	Pause	
11.20	**Führung durch die Produktion und das Democenter YXLON**	**Dr. Joseph Kosanetzky** Head of Division Systems
12.20	Lunch-Buffet	Alle

Division Systems

Differentiation: Added Value through Innovative Customer Solutions

Case study: Automated X-Ray Inspection Systems
Dr. Joseph Kosanetzky, Head Division Systems

The YXLON World: A Broad Range of Markets & Products

Adequate solutions for different needs

X-ray inspection and CT systems for testing of welds, turbine blades, castings and composite structures in the aerospace industry.

X-ray inspection and CT systems for testing of automotive castings, wheels & tires and electric components.

Portable X-ray systems and X-ray based pipe inspection systems for testing of welded seams in pipe production and maintenance.

Microfocus X-ray systems and Micro-CT systems for testing of components in the electronic industry.

Market Trends and Drivers for Automation

- Low-weight/low-cost designs with less material often require 100% testing
- Tendency from qualitative to quantitative results
- Proof of product safety and liability
- 3D inspection based on Computed Tomography (CT)
- Automated defect recognition (ADR) for in-line applications
- Global customers demand global on-time service 24/7 world-wide

➡ **Process Improvements and Cost Savings**

Benefits of Automated X-Ray Inspection

Operator independent results / elimination of human factor	>98% High(est) up-time (standard > 95% up to > 98%)	Quantitative results allow for implementation of parts specific end-customer specification
Full integration into production line (in-line inspection) and into factory IT net-work	Reduction of scrap rate (key for ROI calculation)	 Feedback loop & Identification of necessary adaptation

Innovative Customer Solutions thanks to deep Application Know how, unique SW algorithms and dedicated Inspection Concepts

Development
System / Software

Tool kit
- Specialized HW
- Software features
  - ADR
  - HDR
  - CT

Customization
product packages tailored to applications

- Systems for wheel / tire inspection
- Systems for turbine blade inspection
- Systems for cast part inspection

Some typical Examples

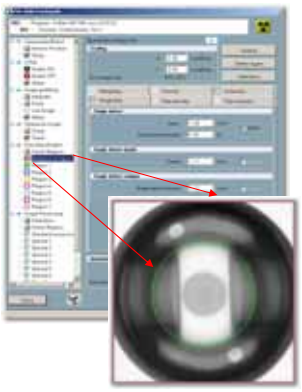
Automated Wheel Inspection System

Robot based System for high throughput inspection of general castings

Automated Tire Inspection System

Automated CT System

Cast Inspection
Automatic Defect Recognition (ADR)

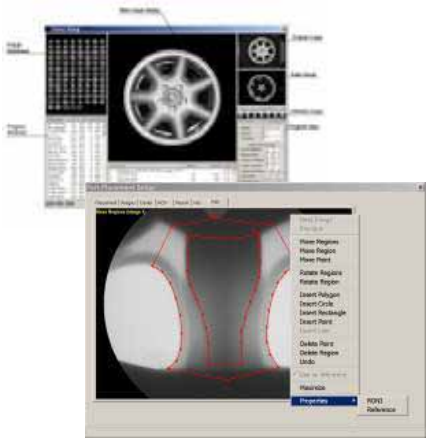


Innovation

- Best X-ray Image e.g. HDR
- Unique ADR detection algorithms
- Lowest false reject rate due to sophisticated training of regular structures

Main area of usage: Automotive supply industry (Tier 1 & 2 suppliers)

Wheel Inspection
Automatic Defect Recognition (ADR)

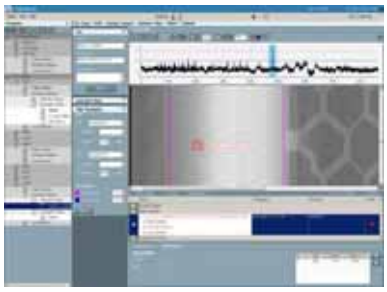


Innovation

- Unique manipulation concept
- Unique ADR detection algorithms
- Lowest false reject & highest detection rates
- Full integration into customer IT network -> process feedback loop

Main area of usage: Casting / forging of wheels

Tire Inspection
Automatic Defect Recognition (ADR)

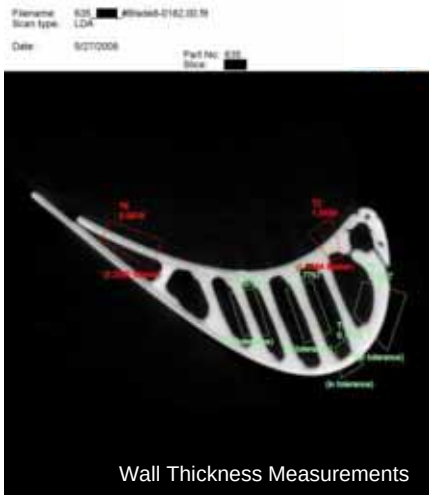


Innovations

- Best X-ray Image due to unique line detector
- First ADR solution on the market
- Inspection recipes tailored to customer needs

Main area of usage: Tire manufacturers for development and manufacturing

CT Inspection
Automated Feature Extraction



Innovation

- Best 2D CT slices due to dedicated LDA (line detector)
- CT system adapted to customer application
- Special ADR algorithms tailored to application and customer specification

Automated Defect Detection (ADR) - A real life customer case …

… will be presented by

MTU Aero Engines

Benjamin Henkel
MTU Aero Engines
Zerstörungsfreie Prüfverfahren (TAFP)

Agenda Vormittag

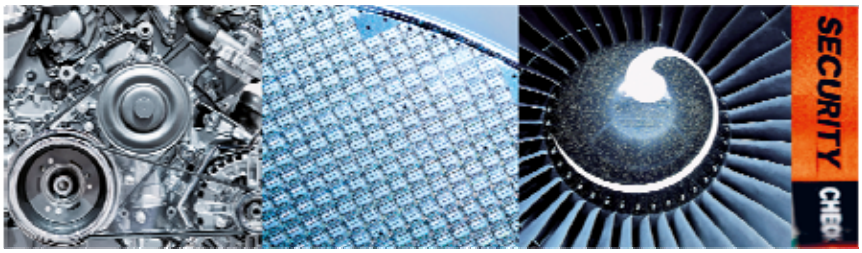
Zeit	Thema	Referent
10.20	**Differenzierung durch innovative Kundenlösungen**	**Dr. Joseph Kosanetzky** Head of Division Systems
10.35	**Vollautomatische CT-Prüfung von Turbinenschaufeln** Q&A	**Benjamin Henkel** MTU Aero Engines GmbH Zerstörungsfreie Prüfverfahren (TAFP)
11.10	**Pause**	
11.20	**a) Führung durch die Produktion** **b) Vorführung an 3 Anlagen im Democenter YXLON**	Aufteilung in 3 Gruppen
12.15	**Lunch-Buffet**	Alle

Agenda Nachmittag

Zeit	Thema	Referent
13.30	**Kooperation als Brennstoff für Innovationen**	**Charles Flükiger** Head of Industrial X-Ray
13.45	**Innovative Electron Beam Technology for Aseptic Packaging Applications** Q&A	**Laurence Mott** Vice President D&E Packaging Solutions AB Tetra Pack
14.20	**Pause**	
14.25	**Globales Innovationsmanagement**	**Michael Kammerer** Head of Plasma Control Technologies
14.40	**Vacuum Capacitors in Growing Manufacturing Markets** Q&A	**Dr. Mike Cooke** Chief Technology Officer Oxford Instruments
15.15	**Zusammenfassung und Ausblick**	**Ronald Fehlmann** CEO COMET Group
15.30	Ausklang, Networking und Kaffee	

Industrial X-Ray (Modules & Components)

Cooperation that fuels Innovation



Charles Flükiger
Head of Business Unit Industrial X-Ray

COMETGROUP
Technology with Passion

Cooperation that fuels Innovation


Shared vision


Cultural fit


Trust and respect


Full transparency


Complementary skills

UNIQUE

COMETGROUP
Technology with Passion

Macro-Trends

Environment

Efficient use of resources

Process control

Safer World

Economical

Micro-Trends

From	To
 Stand-alone operation	In-line operation
 Statistical Control of simple parts	Control of all parts relevant for safety and performance
 Film - 2D	Digital-3D & CT-Real-Time-Automatic Defect Recognition
 Price of the X-Ray System	Total Cost of Ownership

Product finds Market (Push Approach)

Product developed based on Market Needs (Pull Approach)

Cooperation Model

	Tetra Pak	COMET
Profile	Global Concern privately owned	Mid Size Company Swiss Stock Exchange
Sales (MCHF / 2010)	9`980 M€	217 MCHF
Employees	21`800	720
Core application	Food packaging (liquid)	Industrial X-Ray Plasma Control
		
How to succeed in this unbalanced game ?		

Cooperation Model

IP-Model

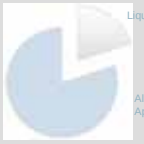
Partner
- pays 100% - owns 100%
- responsible for IP-defense
- exclusive rights for liquid food

Comet
- Royalty-Free license to IP outside Tetra Pak core applications
- Exclusivity: exclusive development partner & MFG partner

COMETGROUP
Technology with Passion

Cooperation Model

IP-Model



Partner
- pays 100% - owns 100%
- IP-defend responsibility
- Exclusive rights for liquid food

Comet
- Royalty-Free license to IP outside Tetra Pak core applications
- Exclusivity: exclusive development partner & MFG partner

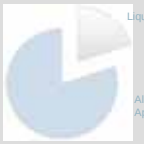
Open Books

Partner
- full cost transparence

Comet
- Guaranteed EBIT model cost + overhead + profit

Cooperation Model

IP-Model



Partner
- pays 100% - owns 100%
- IP-defend responsibility
- Exclusive rights for liquid food

Comet
- Royalty-Free license to IP outside Tetra Pak core applications
- Exclusivity: exclusive development partner & MFG partner

Open Books

Partner
- full cost transparence

Comet
- Guaranteed EBIT model cost + overhead + profit

Free Access

To all resources:
- Specialists
- Research Labs
- Legal
- Badge, Email Account, Desk
- Simulation tools
- Suppliers / Partners
- …..

Cooperation Model

IP-Model

Partner
- pays 100% - owns 100%
- IP-defend responsibility
- Exclusive rights for liquid food

Comet
- Royalty-Free license to IP outside Tetra Pak core applications
- Exclusivity: exclusive development partner & MFG partner

Open Books

Partner
- full cost transparence

Comet
- Guaranteed EBIT model cost + overhead + profit

Free Access

To all resources:
- Specialists
- Research Labs
- Legal
- Badge, Email Account, Desk
- Simulation tools
- Suppliers / Partners
- …..

The goal should NOT be to bind everyone's hands!
A development agreement should allow an R&D team to operate with FREEDOM.

Cooperation that fuels Innovation

COMET & Tetra Pak

- Shared vision
- Cultural fit
- Trust and respect
- Full transparency
- Complementary skills

Win & Win

- Unique, healthy and environment friendly
- Saves energy
- Reduces CO2
- Shorter production times
- Inherently efficient technology

Cooperation that fuels Innovation
The customer perspective …

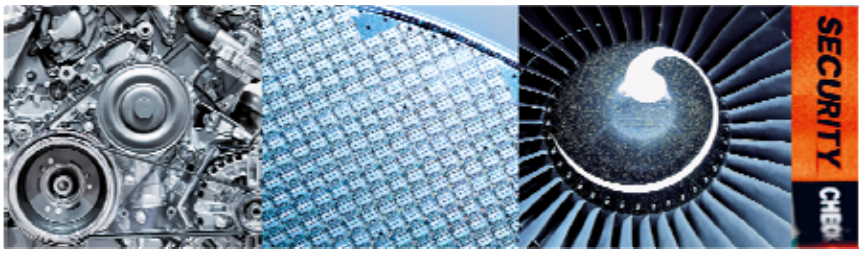
… will be presented by

Laurence Mott
Vice President D&E Packaging
Technology Tetra Pak

Agenda Nachmittag

Zeit	Thema	Referent
13.30	**Kooperation als Brennstoff für Innovationen**	**Charles Flükiger** Head of Industrial X-Ray
13.45	**Innovative Electron Beam Technology for Aseptic Packaging Applications** Q&A	**Laurence Mott** Vice President D&E Packaging Solutions AB Tetra Pack
14.20	**Pause**	
14.25	**Globales Innovationsmanagement**	**Michael Kammerer** Head of Plasma Control Technologies
14.40	**Vacuum Capacitors in Growing Manufacturing Markets** Q&A	**Dr. Mike Cooke** Chief Technology Officer Oxford Instruments
15.15	**Zusammenfassung und Ausblick**	**Ronald Fehlmann** CEO COMET Group
15.30	Ausklang, Networking und Kaffee	

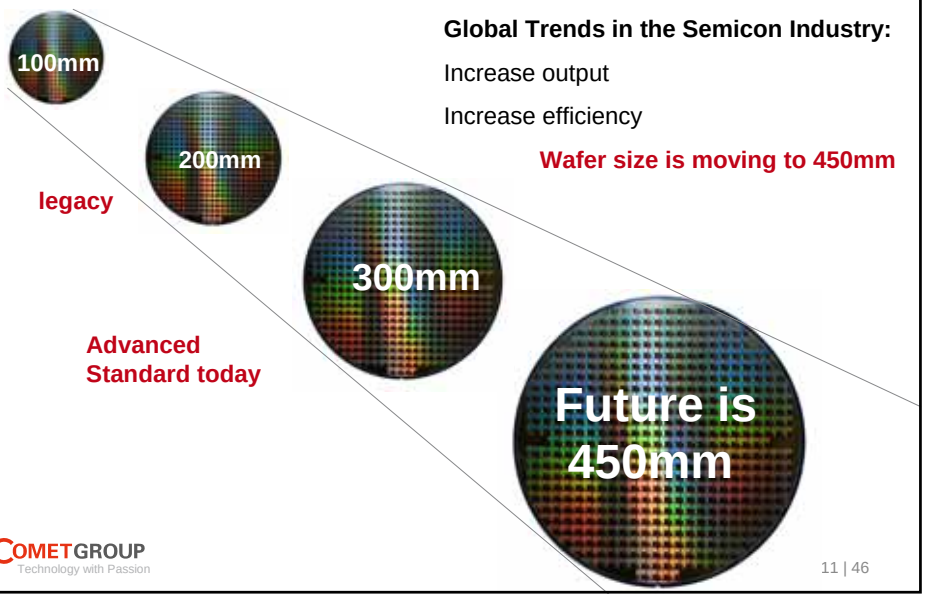
Future through Global Innovation Management



Michael Kammerer
Head Plasma Control Technologies

COMETGROUP
Technology with Passion

Semicon - A fast Moving Technological World



Global Trends in the Semicon Industry:

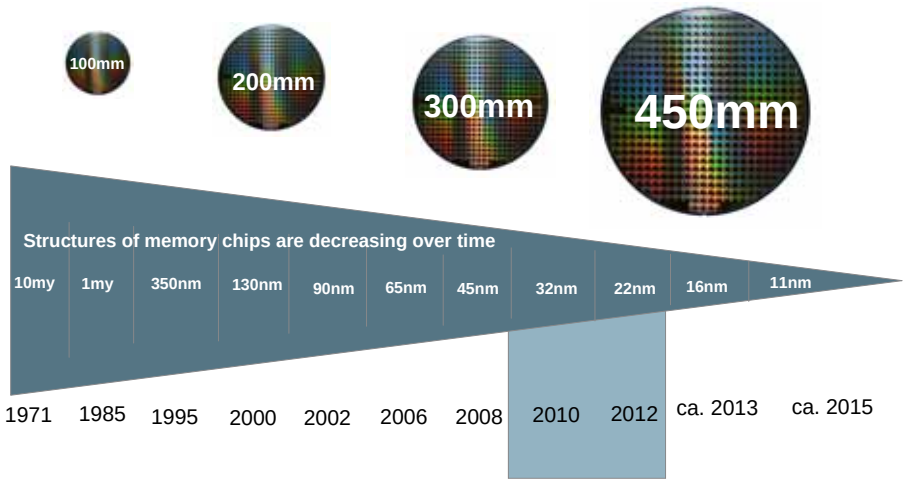
Increase output

Increase efficiency

Wafer size is moving to 450mm

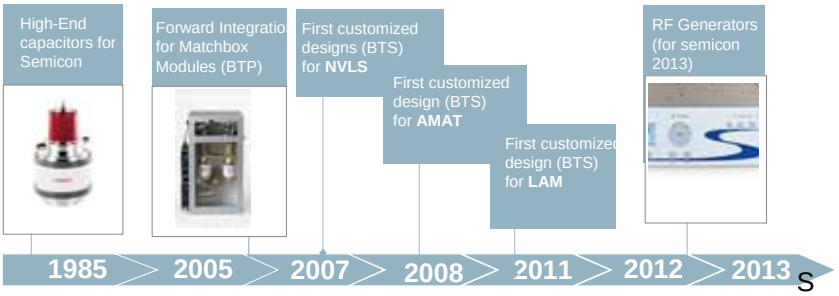
COMETGROUP
Technology with Passion

Semicon - A fast Moving Technological World



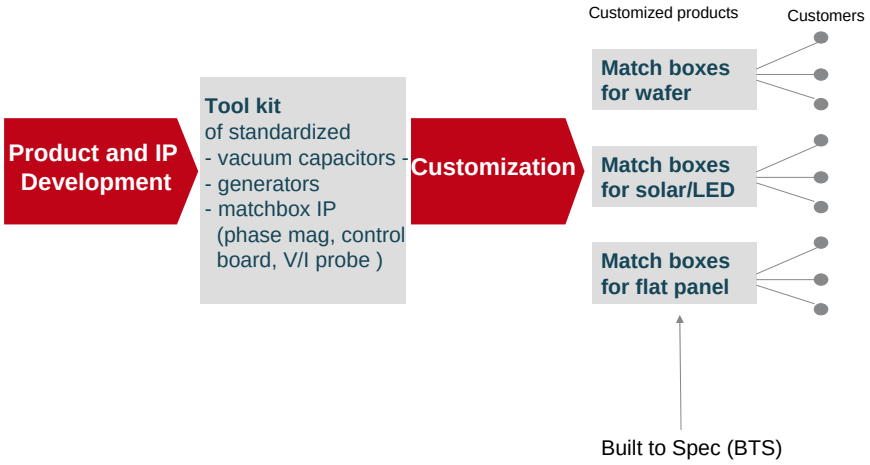
COMET is at the Forefront of this Development

- Plasma excitation processes in Semicon require high end solutions
- The matchbox is the critical module in the RF power supply chain
- COMET is increasingly well positioned as Innovation and R&D Partner thanks to leading Core Technologies



Stim

Fast Technological Cycles needs Local Presence close to Customers for an efficient Customization Process



What are our Key Success Factors to win and delight Customers?

Our Commitment to a Global Innovation Management with

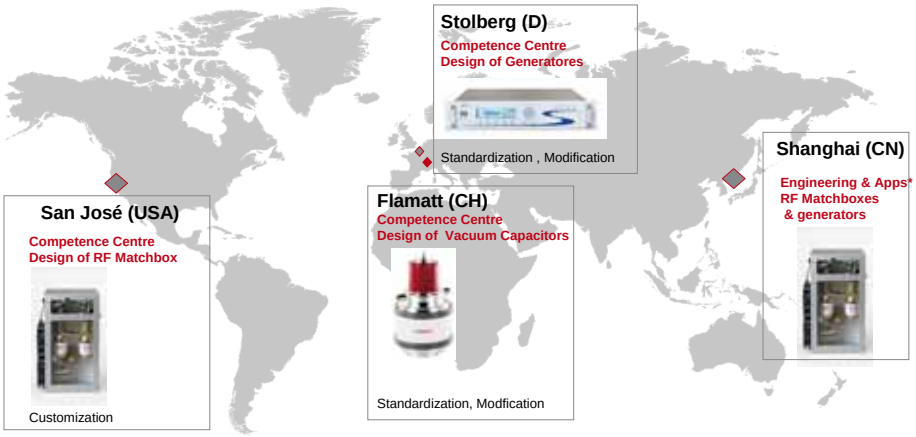
1) Worldwide established R&D and Engineering organization

2) Customer proximity thanks to local application competence centres

3) Powerful R&D Teams

Worldwide established R&D / Engineering Organization

Customization thanks to our organizational structure with 4 Competence Centers



*Apps = Application engineer

COMETGROUP
Technology with Passion

USA: Customization at San Jose in the heart of the Silicon Valley

- Development & Design centre of match boxes since 2006
- Application Engineers
- Prototype production line for match boxes since 2009
- Assembly line for match boxes qualified Q4 2011

COMETGROUP
Technology with Passion

Asia – Customer Support & Engineering

Important Customers

- Application & Technical Engineering
- Assembly RF matchboxes since 2009/10 (5 production lines for customized matchboxes)

- Customer Support

Europe – Standardization and Modification

Flamatt:

- Main R&D Competence Cente for design and development of vacuum capacitors

- Prototype Production
- Production line for vacuum capacitors and match boxes

- Application Engineering

Stolberg:

- R&D and design of RF generators and assemly

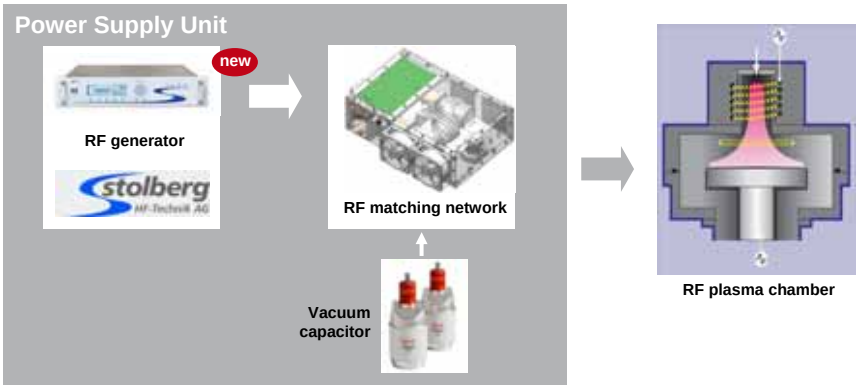
- Application Engineering

Stolberg: Competence Center for the Design of Generators

- Recognized expert for demanding RF power generators with profound knowledge and experience
- Fully fledged production line and R&D for RF generators
- Access to the RF power supply market

PCT a Powerful R&D Partner

- Continuous development / modifications of vacuum capacitors upon inputs from RF R&D and strong interaction with customer
- Harmonizing customized matchboxes with own generators allows to provide complete high-end solutions



Success of our Global Innovation Management

- Two of the big three OEMs in Sillicon Valley have been fully penetrated with BTS on all systems for the advanced 300mm technology.
- Biggest OEM still further potential to penetrate
- Matchboxes used for all processes: Etch, Deposition, Cleaning

Our Potential:

- 300mm advanced technologies still in ramp up mode globally
- Indicators that 300mm will become the „new“ legacy production standard in future
- 450mm Technology

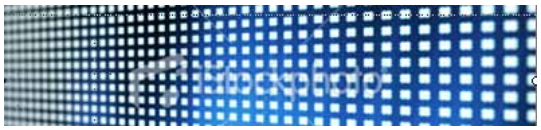
Conclusion Global Innovation Management

- **Be close to the customer** for daily interactions during development processes
- **Understand the applications** (Plasma processes) to provide customized high-end solutions (customer expects solutions not only modules)
- Develope **own IP elements** to allow modular design architecture and to create iterations from masterdesigns
- Support R&D by **local engineering** to finalize the products for the applications and transfer to volume production
- Local operations support all activities and help to **quickly build prototypes** and accelerate the transfer processes to volumes

The same Process Approach is valid for further Emerging Markets

Solar

LCD Flatpanel Display



LED

More about global Trends with Potential for Development …

… will be presented by

Dr. Mike Cooke
Chief Technology Officer
Oxford Instruments Plasma Technology

Agenda Nachmittag

Zeit	Thema	Referent
13.30	**Kooperation als Brennstoff für Innovationen**	**Charles Flükiger** Head of Industrial X-Ray
13.45	**Innovative Electron Beam Technology for Aseptic Packaging Applications** Q&A	**Laurence Mott** Vice President D&E Packaging Solutions AB Tetra Pack
14.20	**Pause**	
14.25	**Globales Innovationsmanagement**	**Michael Kammerer** Head of Plasma Control Technologies
14.40	**Vacuum Capacitors in Growing Manufacturing Markets** Q&A	**Dr. Mike Cooke** Chief Technology Officer Oxford Instruments
15.15	**Zusammenfassung und Ausblick**	**Ronald Fehlmann** CEO COMET Group
15.30	Ausklang, Networking und Kaffee	

Performance Outlook

2011

- The COMET Group expects sales growth of about 10% in local currencies.
- Translated into Swiss francs, this represents sales and EBITDA results slightly lower than in the prior-year (2010: net sales of CHF 217.4 million, EBITDA of CHF 28.3 million).

2012

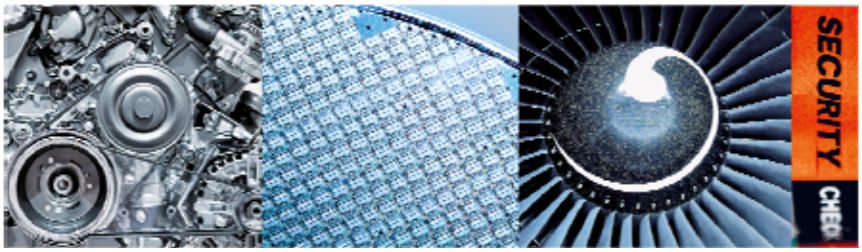
- For 2012, assuming constant currency relations, the Executive Committee and Board of Directors anticipate that sales and EBITDA operating profit will be approximately in line with fiscal 2011.
  - The Group assumes that H1 2012 will be significantly weaker than the strong first six months of 2011.
  - For H2 2012, a renewed slight increase in demand expected.

Corporate Communication Calendar

- March 15, 2012 — Publication of results 2011
- April 18, 2012 — Shareholders Meeting 2012

- For more details on business development, financial data or reports please refer to http://www.comet-group.com

Thank you for your attention



COMET HOLDING AG
Herrengasse 10, CH-3175 Flamatt
T +41 31 744 90 00, F +41 31 744 90 90
info@comet.ch, www.comet-group.com