Plasma Control Technologies

Commercializing the RF power supply unit through expanded market access

Michael Kammerer, President of Plasma Control Technologies

Agenda

1  PCT business environment
2  What makes COMET PCT successful?
3  Strategic objectives: what do we want to achieve?
4  Core initiatives at a glance: building blocks
Chances in a cyclic business environment

Trends

Smart Mobility
Connectivity
Efficiency

More efficient smartphones and tablets …
(Flash, NAND memories)

… require higher performing chips and ….transition to a new wafer technology

Challenges in a cyclic business environment

Trends

Shorter cycles of product life time
Shorter innovation cycles

Higher productivity to reduce costs
flash memory is one of the highest cost elements in producing a smart phone (22% - 25% of total costs)
PCT in the right markets where RF power is needed

- **Communication**
  - Mobile Phones, mobile computing

- **Solar**
  - Thin-film doubles in market shares by 2030. Crystalline will also use RF processes in the future.

- **Flatpanels / Displays**
  - LCD, AMOLED

- **LED**
  - Future Technology for industrial and house lightening

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PCT business model

Example memory chip for smart phone

Why do our customers choose us?

- High quality RF product portfolio
- High competences in RF technology
- Innovative and flexible approach
- Highly competent R&D teams
- Proximity to our customers with sales & service, application and engineering centers
- Global operational excellence
Strong market position worldwide

**Vacuum capacitors**
- Market size 2011: ca. $78m

**RF matchboxes**
- Market size 2011: ca. $200m

Expand market position
Increase market share up to 10% by 2015

**RF generators**
- Market size 2011: >$300m
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Strategic Goals: Push innovative technologies

- Targeted investment in further development of RF & vacuum technology (450mm)
- Launch of new technologies (IP’s) and product features to secure competitive advantages
- Set up training and education R&D programs
- Strong relationship with relevant R&D institutes & universities
Strategic Goals: Expand market reach

- Focus on top customers (Penetration LAM, AMAT)
- Business development ASIA (China, Korea, Taiwan)
- Strengthen sales/key account organization
- Push emerging RF generator business
- Accelerate sales for standard products
- Diversify businesses outside semi/solar

Strategic Goals 2015: Expand market reach

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<th>Strong Key Account Management</th>
<th>Set-up a sales channel for standard products</th>
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<td>Further penetration of Top Customers with customized RF Matchboxes</td>
<td>Aggressive push of sales with standard RF generators</td>
<td>CHINA</td>
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<td>LAM/NVLS</td>
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<td>- Push sales of standard products</td>
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<td>Applied Materials</td>
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<td>- Further penetration of potential customers</td>
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<td>Focus on new high potential key accounts</td>
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<td>KOREA</td>
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<td></td>
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<td>- Expand local sales and service organization</td>
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<td>- Penetrate equipment OEM’s with build-to-spec matchboxes and standard generators</td>
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<td>TAIWAN / JAPAN</td>
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<td>- Push further business opportunities</td>
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Semiconductor – remains PCT core market

COMET with R&D projects in leading position

- All big OEMs in Silicon Valley have been penetrated with COMET matchboxes on most systems for the advanced 300mm technology. New projects regarding 300mm are still ongoing.
- Further aggressive penetration of the OEMs with RF matchboxes and RF generators

Strategic Goals

- Push aggressively RF standard generators
- Establish RF generators in solar
- Develop further business potentials: Medical and industrial laser applications
- Entry with RF generators in Semi
Business development outside SEMI with RF Technology

- VHF Amplifiers for medical applications
  - COMET => exclusive 1st source for VHF Amplifier
  - Customized products with extreme wide frequency (350 – 600MHz)
  - Strong customer partnership since 1985

- Establish RF generators for laser applications

- Further investigation of additional opportunities

Investment in business development ASIA

**Solar / LED Market**  | **COMET**
---|---
2 major thin film producers announce big plans for the next 5 years | PCT involved with 13MGz and emerging 40MHZ Technology
Government investment programs for solar plants postponed but not cancelled | PCT ready for ramp up
LED market still emerging | PCT involved with potential equipment manufacturers
PCT Strategic building blocks 2015

Key Technologies
- Vacuum and RF technology

Strong Growth
- Focus on top customers (Penetration LAM, AMAT)
- Business development Asia
- Strengthen sales / KAM organization
- Diversify businesses outside semi / solar

Emerging Business
- Push RF generator business

Operational Excellence
- Continuously improvement of LEAN production
- Set up of LEAN administration