Capital Market Days 2011
August 23 - 24

Oerlikon Vacuum
Dr. Andreas Widl

August 24, 2011
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</table>
Did you know....

On earth, vacuum is an artificial state of air

Zugspitze, Germany
2962 m
705 mbar

Mont Blanc, France & Italy
4810 m
555 mbar

Mount Everest, Nepal
8848 m
315 mbar

Gas pressure < 300 mbar is considered a ‘vacuum’
Did you know….

... that many manufacturing processes require a vacuum?

**Industrial coatings on**
- optical glass
- architectural glass
- wear resistant coatings

**Thin film coatings on**
- data storage components
- wafers
- display & solar panels

**Industrial manufacturing, e.g.**
- laser cutting
- automotive hydraulics
- metallurgy

**Research & Analytics**
- electron microscopy
- analytical measurement
- health research
Did you know…

... that CERN’s search for black holes is powered by Leybold Vacuum?
Did you know…

... that Europe largest telescope runs on Leybold Vacuum cryo pumps?
Did you know…

... that Leybold creates a vacuum in mass spectrometres this large?
# Agenda

1. Did you know?
2. Technological Leadership
3. Markets & Customers
4. Operational Excellence
5. Tactics & Financials
6. Summary
Oerlikon Vacuum
We service a broad range of vacuum demands

<table>
<thead>
<tr>
<th>Industry</th>
<th>Range</th>
<th>Pumping System</th>
<th>Technology</th>
<th>Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pick &amp; Place, Wood</td>
<td>Rough Vacuum</td>
<td>Sidechannel Blowers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food &amp; Packaging</td>
<td></td>
<td>Liquid ring pumps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Print &amp; Paper</td>
<td>Fore Vacuum</td>
<td>Rotary Vanes (oil sealed)</td>
<td></td>
<td>SOGEVAC</td>
</tr>
<tr>
<td>Process Industry</td>
<td>High Vacuum</td>
<td>Screwpumps (Dry)</td>
<td></td>
<td>SCREW-LINE</td>
</tr>
<tr>
<td></td>
<td>Ultra High Vacuum</td>
<td>Turbomolecular Pumps</td>
<td></td>
<td>RUVAC</td>
</tr>
<tr>
<td>Optical Coating</td>
<td></td>
<td>Rootsblowers</td>
<td></td>
<td>TURBOVAC</td>
</tr>
<tr>
<td>PV/Semiconductor</td>
<td></td>
<td>Cryogenic Pumps</td>
<td></td>
<td>CRYOVA</td>
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<tr>
<td>Analytics</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>R&amp;D</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Space Simulation</td>
<td></td>
<td></td>
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</tbody>
</table>

mbar:
- \(10^{-3}\) Rough Vacuum
- \(10^{-6}\) Fore Vacuum
- \(10^{-9}\) High Vacuum
- \(10^{-12}\) Ultra High Vacuum

Extreme High Vacuum
Product Overview

**DRYVAC**
Dry Compressing Screw Vacuum Pumps

**TRIVAC**
Rotary Vane Vacuum Pumps

**RUVCAC**
Roots Vacuum Pumps

**SOGEVAC**
Rotary Vane Vacuum Pumps

**TMP MAG Line**
Turbomolecular Pumps

**TMP Classic Line**
Turbomolecular Pumps

**SCREWLINE**
Dry Compressing Screw Vacuum Pumps

**TURBOVAC SL**
Magnetically-levitated turbomolecular pumps

**COOLVAC**
Cryo pumps

**PHOENIX L**
Helium Leak Detector

**TURBOSTREAM**
Turbo radial Blowers

**SCROLLVAC**
Dry Compressing Scroll Vacuum Pumps

**UNIVEX**
Experimentation Systems

**VACVISION**
Universal Controller

**CERAVAC**
Active Sensors

**DISPLAY TWO**
Total Pressure Gauges
Product Overview ... a different perspective

> 2,5 m
Global Sales, Service & Production Footprint

4 Production Sites
32 Sales & Service Sites
>50 Agents / Distributors
1,450 Employees
# Agenda

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# Market Segment Groups

Over 18,000 Active Accounts in 2010

<table>
<thead>
<tr>
<th>Segment</th>
<th># of customers</th>
<th>Prevalent customer size</th>
<th>Order frequency</th>
<th>Price sensitivity</th>
<th>Sales channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process Industry</td>
<td>13,000</td>
<td>Key Account A-, B-, C- Customers</td>
<td>high</td>
<td>medium</td>
<td>Key Account Direct Sales In-house Sales</td>
</tr>
<tr>
<td>Coating Solar Semi</td>
<td>1,600</td>
<td>Key Account A-, B- Customer</td>
<td>low</td>
<td>very high</td>
<td>Key Account Direct Sales</td>
</tr>
<tr>
<td>R&amp;D ANA</td>
<td>3,400</td>
<td>Key Account A-, B-, C- Customers</td>
<td>high</td>
<td>high</td>
<td>Key Account Direct Sales In-house Sales</td>
</tr>
</tbody>
</table>
Key Customers – Global Players

- E.On
- Siemens
- Bystronic
- Applied Materials
- MDS Analytical Technologies
- Urenco
- Coherent
- PTR
- Von Ardenne
- Roth & Rau
- SIDA
- Osram
- Cnrs
- Singulus
- The Solution
- Fanuc
- Schmetz
- FHR Anlagenbau GmbH
- Thermo Fisher Scientific
- Oerlikon solar
- Inficon
- Centrotherm Photovoltaics
Process Industry

Key market characteristics and drivers

Market development

CAGR 2010-2013
5%

1244 1347 1398 1451
2010 2011 2012 2013

Market characteristics

- Largest market with stable and solid growth
- Lower price pressure due to vast and fragmented customer base with lots of small and medium sized customers
- Broad spectrum of applications offers diversified opportunities with lower business risk
- Stable and loyal customer base

Competitive environment

CHF 1.2 bn

Positioning:
- 15% market share in the process industry
- OLV well positioned in sub-segments especially furnace, energy (nuclear), electro, laser and machinery

OLV 15%

Est. market shares 2010

Growth drivers

- Strong growth of manufacturing industries in Asia
- Market recovery in Europe and the Americas
- Increasing energy demand in emerging markets
- Investment in renewable energy
- Extension and renovation of power distribution grids
- Higher productivity requires modernization of production lines
- Higher quality requirements for materials (e.g. steel)
Analytics and R&D
Key market characteristics and drivers

Market development

<table>
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<tr>
<th>Year</th>
<th>Ana</th>
<th>R&amp;D</th>
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<tbody>
<tr>
<td>2010</td>
<td>371</td>
<td>390</td>
</tr>
<tr>
<td>2011</td>
<td>380</td>
<td>406</td>
</tr>
<tr>
<td>2012</td>
<td>391</td>
<td>421</td>
</tr>
<tr>
<td>2013</td>
<td>403</td>
<td>434</td>
</tr>
</tbody>
</table>

CAGR 2010-2013: 3%

Market characteristics

- Technology driven market with high barriers to entry in Analytics due to qualification procedures of 2+ years
- ANA: mainly mid size to big OEM customers with stable growth rates
- R&D: broad customer base and limited number of large research centers with high demand and constant flow of projects

Competitive environment

<table>
<thead>
<tr>
<th>CHF 0.8bn</th>
<th>OLV 10%</th>
</tr>
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Positioning:
- Top players have similar market share

Growth drivers

- Analytics: increasing demand from health care, food control, drug development, doping control, homeland security, mass spectrometer environmental control and in nanotechnology for electron microscopes
- R&D government-funded market, main drivers are research for alternative energy, nanotechnology, space and astronomy, cancer therapy and fundamental research
Coating / Solar

Key market characteristics and drivers

**Market development**

![Graph showing market development from 2010 to 2013]

- **CAGR 2010-2013**: 3%
- **OLV accessible market (incl. SEMI without process fore vacuum pumps and cryo)**

**Market characteristics**

- Solar market leading the growth in renewable energy sector followed by other technologies
- Affiliate companies are customers, Oerlikon Solar (Solar) and Oerlikon Balzers (wear protection)
- Strong position at OEMs in other TF technologies with DRYVAC family
- Few OEMs in Europe, slowly moving production to Asia
- Cyclicality in architectural glass and display coating, coupled with strong price erosion
- Wear protection and web coating stable and mature

**Competitive environment**

- **Positioning**:
  - **Solar**: General supplier to all PV related technologies and leading players. Strong relation to Oerlikon Solar.
  - **Coating**: Strong relation to Oerlikon Coating.

**Growth drivers**

- High oil and gas prices and global warming drive renewable energy market growth
- Widespread government incentives and subsidies coupled with increasing solar energy price competitiveness
- Increasing energy demand in emerging markets
- Building and construction industry need for new energy saving coatings on architectural glass
- Reduced wear and longer lifetime of tools, gears and parts in the automotive and machinery industry
### Agenda

1. Did you know?
2. Technological Leadership
3. Markets & Customers
4. **Operational Excellence**
5. Tactics & Financials
6. Summary
The Challenge:
Dealing with Volatility

Quarterly Order Intake & Gross Sales [CHFm] – FX normalized

Active cycle management in 2009 resulted in higher Operating Free Cash Flow than 2008:

- “Breathing factory” successfully contributed during business down cycle (temp workforce and outsourcing in business upturns)
- CHF 45m cost reduction in 2009 (short work time, breathing factory, voluntary program, active cost management)
- Concentrate available resources on key strategic projects in order to strengthen our competitive position
- NWC management: Intensified dunning process and credit control activities as well as early and active downsizing of the supply chain and close communication with supplier
- Implemented ongoing process improvement and cost reduction tracking system
Company-wide Goals 2011

- New Supply Chain & Improvement of OTD to 98% (of confirmed customer wish date)
- Innovations and Product Launches
  - DRYVAC
  - MAG integra
  - Electronics and Control
- China Growth
  - Building Expansion
  - More Product and Production Lines
  - Operational Separation of Sales and Production
- Expansion of Systems & Solutions Business
- Employee Training and Development
- Increasing overall Profitability
Changing Gears: Operational Excellence Program in Manufacturing

New SCM (STaR project)
- Prognosis based demand planning - push 2 pull
- Implementation of ex-stock, assembly to order & make to order concepts
- Clean-up IT-ERP
  Performance measurement based on defined standard (market requirements) lead times
- New organizational model

Lean 2012
- VSM & shop floor management
- Setup-time reduction project (SMED)
- New production lines (lean platform based production set up) DRYVAC, MAG, TMP
- Lean logistics / future plant concept Cologne (Logistic Infrastructure – integrated material flow)
- Teamwork (OOE Program)

COGS Reductions
- Budget 2011
- Top 3 Supplier Program
- Expanded value Engineering program

China expansion & product shifts
- BCC share from 8% to 20%
- Supplier base reduction

Profitability
Cost reduction & growth

Book to delivery cycle (OTD 99%)
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OLV tactics

- Further improve application and product know-how in Sales and Service

- Capture opportunities in booming sub segments utilizing the large sales and service network, supported by intelligent and easy to use tools (i.e. integrated CRM)

- Innovative new DRYVAC platform delivers higher performance at a reduced cost compared to the competition

- Leverage Asia’s high growth rates by expanding our already strong presence, especially in China, through local manufacturing and technology leadership
OLV tactics

- New TMP platform design will significantly reduce costs while increasing overall performance
- Penetration strategy for all major non-OLV-OEMs
- Develop emerging markets, i.e. China and India, leveraging existing local presence and know-how
- Development of VACVISION and new software platform to control the complete vacuum system – the most powerful and intuitive machine interface in the industry
- Establish E-shop for OEMs and end-users (University laboratories)
- Increase exposure at scientific conferences along with supporting road shows
OLV tactics

- Leverage our strong technology leadership, premium brand and global footprint to expand customer base in Coating and Solar

- Supplement engineering expertise with deep application know-how to offer complex vacuum solutions, especially in high-growth Asia

- Minimize CoO

- Innovative MAG platform will deliver cost reduction and better product performance

- Leverage the DRYVAC platform to increase our potential in the solar market:
  - supported by proven track record and expertise gained from Oerlikon solar
  - expand to other applications: crystal pulling, PECVD, CIGS, CdTe, solar glass coating, etc.
Key Requirements for New Products

- **Competitive technical performance according to market needs**
  - vacuum pumping performance
  - reliability & robustness in target applications
  - capability to handle process gas chemistry, dust, moisture,….

- **Competitive cost of ownership**
  - product price (i.e. manufacturing cost of the pump)
  - operating cost (energy, water, maintenance)

- **Modular & scalable design**
  - handle market driven variant portfolio with minimum number of different parts
  - create application specific variants at the end of the value chain
DRYVAC Platforms – Versatile Innovation

- Optimised pumping performance
- Most compact dry pump in its class
- World class power efficiency
- Small footprint
- Most flexible packaging
- Integrated self monitoring / protection with touch screen
MAGiNTegra W 1600/1700iPL

- **Target applications:**
  - Coating / Solar

**Customer benefits:**
- Highest vacuum performance in the industry
- Fully integrated converter & power supply
- Design flexibility with controller on the side or on the bottom
- Protection class IP 54

**Leybold benefits:**
- Margin improvement of current business
- Growth through competitive pricing at acceptable margins in the large project business
Innovative Products and Solutions

- Experience as solutions provider
- Innovations driving market chances
- Fulfilling customer needs

- We provide our customers:
  - Standardization of customized vacuum systems,
  - innovative special solutions and turn key solutions,
  - modern electronic monitoring and control,
  - engineering, consulting & application support,
  - piping, installation, services
  - special customer sub systems, software know how, …
Order intake on sustainable level since economic recovery began (excl. intercompany)

**Comment**

- Benefitted from recovery of the global economy
- Strong growth in Europe and Asia
- Key drivers were process industry as well as coating and solar business
- Stabilization of order intake in the second half of 2011
- Significant translation impact due to FX Swiss Franc / Euro

### Order Intake Oerlikon Vacuum 2007 – HY 2011

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<tbody>
<tr>
<td>Order</td>
<td>229</td>
<td>256</td>
<td>145</td>
<td>224</td>
<td>219</td>
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<table>
<thead>
<tr>
<th></th>
<th>FY 2007</th>
<th>FY 2008</th>
<th>FY 2009</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Order</td>
<td>477</td>
<td>460</td>
<td>325</td>
<td>438</td>
</tr>
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</table>
Strong demand following the economic crisis  
(excl. intercompany sales)

Sales Oerlikon Vacuum 2007 – HY 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>HY 2007</th>
<th>HY 2008</th>
<th>HY 2009</th>
<th>HY 2010</th>
<th>HY 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>in CHF m</td>
<td>223</td>
<td>239</td>
<td>149</td>
<td>193</td>
<td>209</td>
</tr>
</tbody>
</table>

Comment

- Major part of segment sales attributable to process industry in HY 2011
- Components business key driver for growth and margins
- Service and Solution business delivered sales growth
- Stabilization at first half year level expected for H2 2011
- Significant translation impact due to FX Swiss Franc / Euro

<table>
<thead>
<tr>
<th>Year</th>
<th>FY 2007</th>
<th>FY 2008</th>
<th>FY 2009</th>
<th>FY 2010</th>
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<tbody>
<tr>
<td>in CHF m</td>
<td>458</td>
<td>465</td>
<td>324</td>
<td>410</td>
</tr>
</tbody>
</table>
Development of Swiss Frank affects Sales mainly due to translation effects (excl. intercompany sales)

- Fx effects negatively affected sales by 12% in HY1 2011 compared to HY1 2010
EBIT in HY 2011 balance of transaction and translation effects

Oerlikon Vacuum EBIT FY 2010

<table>
<thead>
<tr>
<th></th>
<th>FY 2010 reported</th>
<th>Transaction Effects</th>
<th>Translation Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$+30$</td>
<td>$-9$</td>
<td>$+2$</td>
</tr>
<tr>
<td>EBIT Margin in %</td>
<td>$7.3$</td>
<td>$5.4$</td>
<td></td>
</tr>
</tbody>
</table>

Oerlikon Vacuum EBIT HY 2011

<table>
<thead>
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<th></th>
<th>HY 2011 reported</th>
<th>Transaction Effects</th>
<th>Translation Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$+33$</td>
<td>$-4$</td>
<td>$+5$</td>
</tr>
<tr>
<td>EBIT Margin in %</td>
<td>$15.7$</td>
<td>$14.2$</td>
<td></td>
</tr>
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FY 2010 FX impact adj.

HY 2011 FX impact adj.

- 2010 benefitted from favourable USD rates compared to 2009
- Favourable USD rate in HY1 2011 is compensated by negative translation impacts (mainly EUR/CHF)
Main markets in Europe and Asia

Regional Sales Split
Oerlikon Vacuum 2007 – HY 2011

Comment

- Economic recovery in the process industry was the main driver in Europe
- Investment in building capacity in China provides growth opportunity
- Stable market in North America

- 47 % Europe
- 35 % Asia/Pacific
- 16 % North America
- 1 % Other Regions

in %
Oerlikon Vacuum delivered record margin in a sustainable manner

<table>
<thead>
<tr>
<th>EBIT und EBIT Margin Oerlikon Vacuum 2007 – HY 2011</th>
</tr>
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<tbody>
<tr>
<td>in CHF m / Margin in %</td>
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**Comment**

- Strong recovery after economic crises
- Focus on profitable growth delivered record EBIT margin of 16%
- Standardization of components
- Continuous cost control and break-even sales management
- Improved supply chain management and OTD
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**Technological Leadership**
- A more than 160 year tradition of providing innovative vacuum products, solutions and services
- Tremendous engineering expertise in optimizing customer specific vacuum requirements
- Innovative, reliable products

**Markets & Customers**
- Focus on 3 main market segments: Process Industry, Coating/Solar and Analytics/R&D
- Reliable partner for more than 18,000 customers
- Excellent sales and service network
- Sustainable above-market growth by leveraging new products

**Operational Excellence**
- Break-even management without sacrificing strong innovation pipeline
- State-of-the-art manufacturing equipment and processes
- Global DNA, global footprint, local execution

**Tactics**
- Focus on expansion in Asian growth markets
- Strengthen vacuum solution business
- Implementation of lean SCM processes and structures
- Continuous investment in innovation, people and infrastructure
Capital Market Days 2011
August 23 - 24

Oerlikon Vacuum
Dr. Andreas Widl

August 24, 2011
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