Capital Markets Day 2016
Central Europe West

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Central Europe West – optimized plant network across 5 market regions

**Strengths**

- Strong integrated positions in all market areas
- Strong expertise and wide experience in large construction projects (e.g. NEAT) and integrated solutions
- Material life cycle focus for plan 2030

**Locations**

- Germany (South)
- France (Haut-Rhin)
- Switzerland
- Italy

Closed in 2016
Central Europe West – Large construction projects count for approx. 20% of the total cement sales volume

Cement Sales Volume Composition CEW 2016

- Large Construction Projects: 20%
- Base Cement market: 80%

Past and Current Large Infrastructure Projects in Central Europe West

**Switzerland**
- Gotthard tunnel
- Ceneri tunnel
- Power station Linth-Limmern & Hydropower plant Nant de Drance
- Various tunnels in Switzerland (Albula, Belchen, Eppenberg, etc.)

**Italy**
- Metro Line 4 in Milano
- Libeskind Tower

**South Germany**
- Daimler in Immendingen I
- Albvorlandtunnel (part of Stuttgart 21 & new railway system Wendlingen- Ulm)

**Austria**
- Pumped-storage power plant Obervermunt II
Gotthard – from a product based offering before 2000 …

Project description¹

- Gotthard Base Tunnel: two 57-kilometres-long single-track tubes
- Total length of the tunnel system: over 152 km, including all cross-passages, access tunnels and shafts
- The world’s longest and deepest, railway tunnel constructed to date with a rock overburden of up to 2 300 meters
- Challenges: Tight time schedule, high temperatures, water containing sulphate, recycling of excavation material in RMX, 100 year useful life of RMX requested
- Opening ceremony held on June 1, 2016, on time and in budget

LH key success factors

- Development of a new RMX recipe based on a unique cement and additives with the target to go through a pre-qualification procedure
- Different recipes were tested in a specially designed underground testing tunnel under supervision of client representation
- Prequalified RMX was pre-requisite for the construction company

¹) Source: https://www.alptransit.ch/en/gotthard/gotthard-base-tunnel/
... to a need based cross-country offering for Albvorlandtunnel in Germany in 2015

Project description
- Railway tunnel with 2 tubes à 8 km
- 2 tunnel boring machine drill from 2016 to 2020
- Approx. 0.5Mio. m³ RMX & approx. 4.5 Mio. t landfill
- Challenge: Due to two tunnel boring machine at once, very high daily landfill volumes

LH key success factors
- **Large Construction Projects** approach of Switzerland was applied to the South German market
- Early object study identified solution for landfill as key success factor, Holcim secured landfill volume in an early stage with a partner (Letter of Intent)
- The bundling of RMX production on job site and the logistic and landfilling capacity was a strong value proposition and a clear differentiation factor
- Management decision to offer solution to Implenia, strong Key Account in Switzerland, with the ambition to acquire the project as partners. Strong basis for further Projects
- Strong expertise in tunnels leveraged
Central Europe West – tailor-made solutions for our customers

Tailor-made underground RMX plants (24h delivery)

Partner for the tunnel construction and not merely CEM supplier

Innovation: New CEM type for special LCPs

Excavation material handling

AGG/CEM rail transports

QA on job site
Central Europe West – Focus on key cost drivers allows for continuous, sustainable cost improvements

Production fix costs CEW*

- CLC
- AGG
- RMX

2013 2014 2015 2016

Production fix cost reduction driven by

- Synergy Acceleration task force in Eclepens & Siggenthal
- Combined maintenance in aggregates and ready mix
- Insourcing of subcontractors
- Footprint optimization
- Procurement

Cementitious production costs (LC)

- Switzerland
- South Germany
- Italy

2013 2014 2015 2016

- Var. production cost/t cem prod (LC/t cem)
- Cement fix production cost LFL (mLC)

- Significant reduction of variable cement production mainly driven by higher AR consumption and lower energy cost (electrical, Alternative fuels, TF)
Central Europe West – Need based offering as key success factor; cost leadership a must

| Large Construction Projects with further growth potential ⇒ Infrastructure, high-density building areas |
| Need based offering key to win further projects and extract value |
| Knowledge sharing across countries as competitive advantage |
| Cost leadership a must – countries benefiting from group initiatives |
| Empowered countries with full accountability |