



Execution of a cement project from A-Z

Per Mejnert Kristensen

VP, Head of Project Division EMEA/APAC, Cement



Agenda

- Introduction
- Long term trends in the global cement industry
- FLSmidth's role in a cement project from A-Z
- Uncertainties and risks in execution of cement projects
- Outlook in Cement

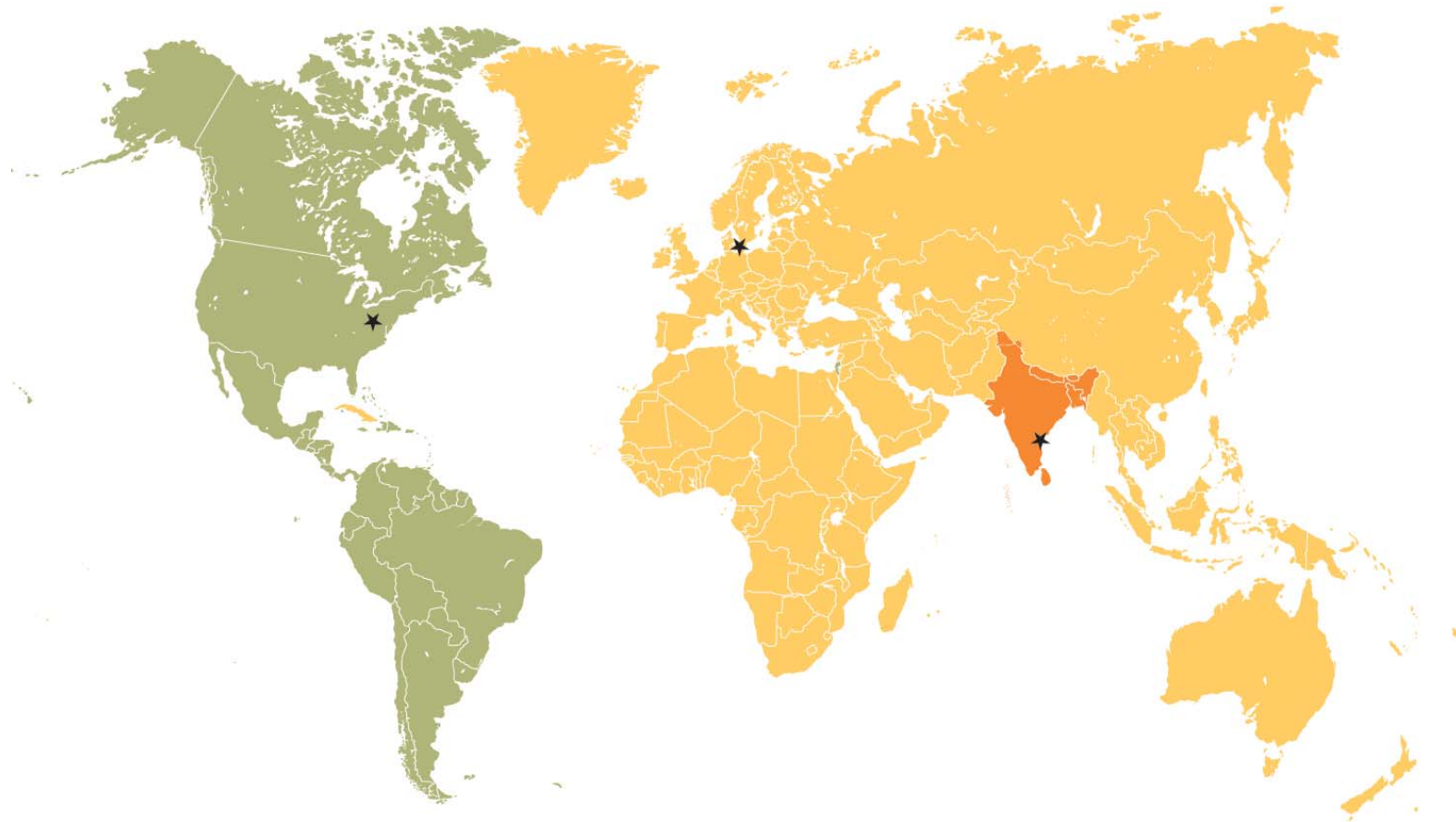




Per Mejnert Kristensen

- **VP, Head of Project Division EMEA/APAC, Cement**
- Joined FLSmidth in 1992
- Positions in FLSmidth:
 - VP, Head of Project Division EMEA/APAC
 - VP, Head of Project Division 1
 - General Manger, FLSmidth China
 - Chief Representative Thailand
 - Ass. Site manager, 10,000 tpd project, Thailand
 - Project Sales



**Project Division EMEA/APAC**

Europe
Middle East
Africa
Asia Pacific
Cuba

Project Division Americas

North-, Central- and South America
(excluding Cuba)
Israel

Project Division India

India, Sri Lanka, Bangladesh,
Nepal and Bhutan



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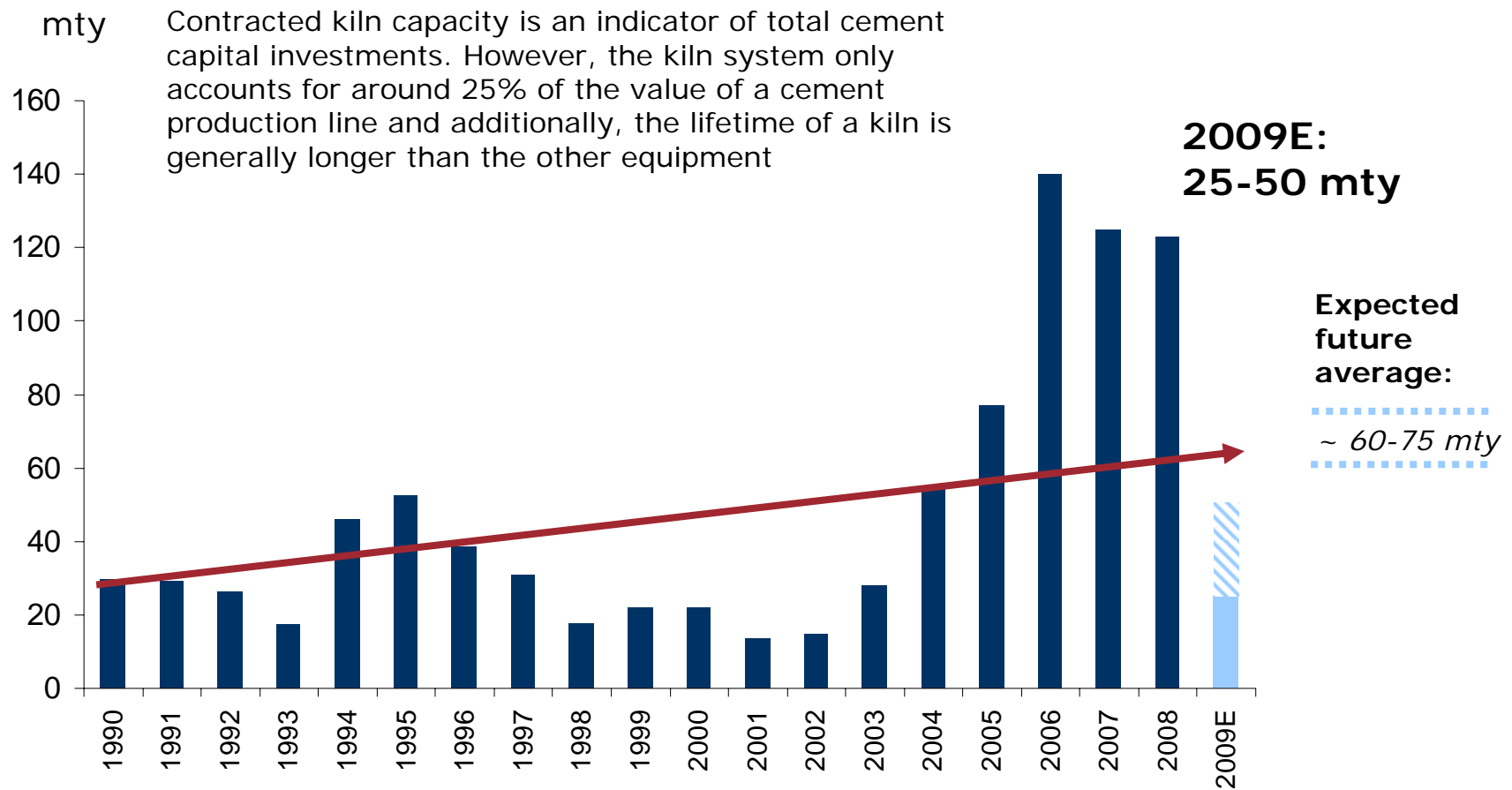
Long term trends

- Growing need for cement remains despite current global crisis !





New global contracted cement kiln capacity (excl. of China)





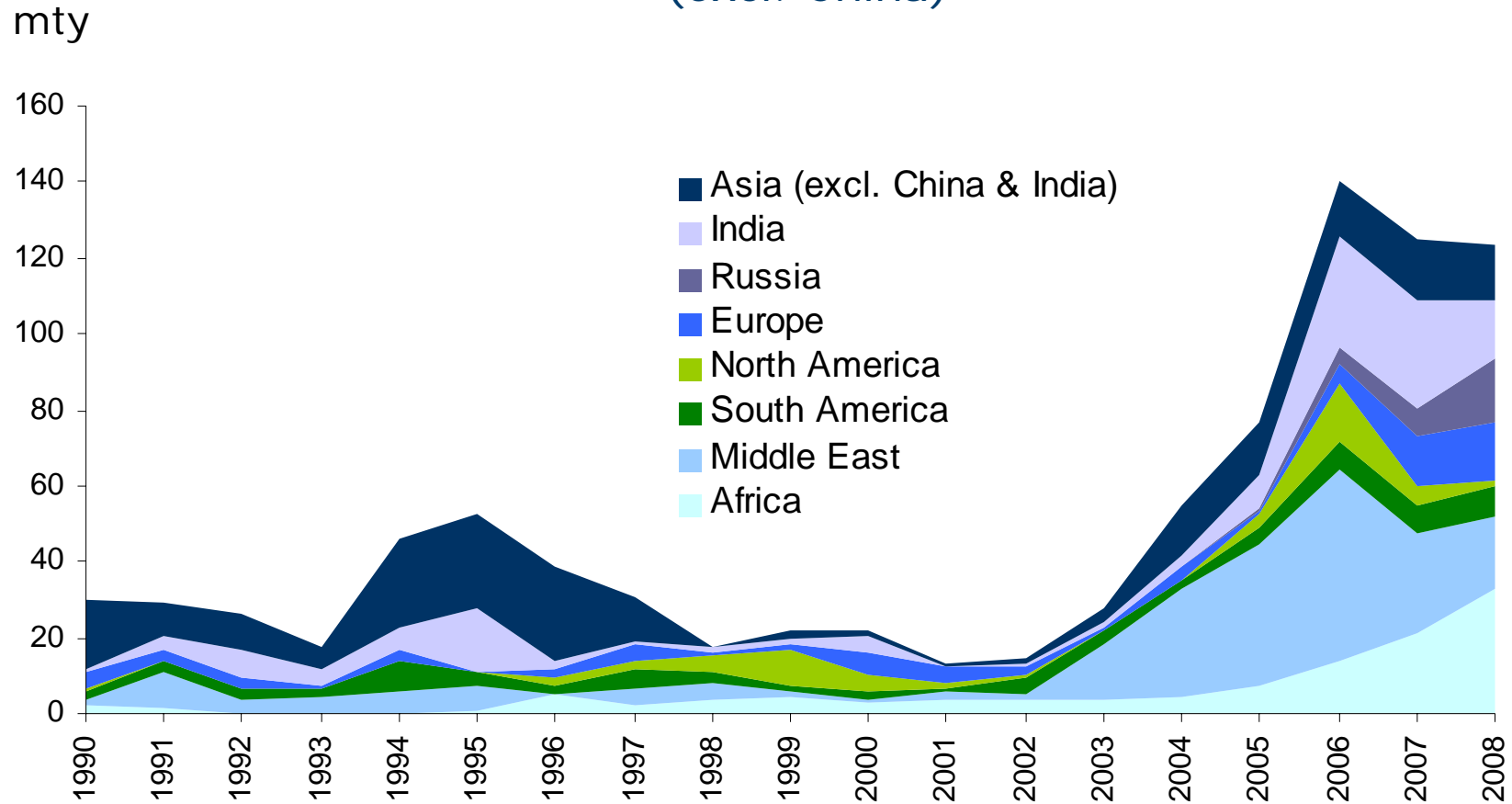
Long term trends

- Growing need for cement remains despite current global crisis !
- Emerging markets will continue to be the driver - now also Africa





Geographical distribution of new global contracted cement kiln capacity (excl. China)





Long term trends

- Growing need for cement remains despite current global crisis !
- Emerging markets will continue to be the driver - now also Africa
- Cement kiln sizes growing





History of kiln capacity development



Wet kilns

1892: 1.8x18 m
35 tpd
1967: 7.6x232 m
3500 tpd



Preheater kilns

1970: 6.0x96 m
4000 tpd



Precalciner kilns

1984: 5.0x80 m
5500 tpd
1990: 6.0x96 m
≥10,000 tpd
2006 →: 6.6x93 m
≥12,000 tpd

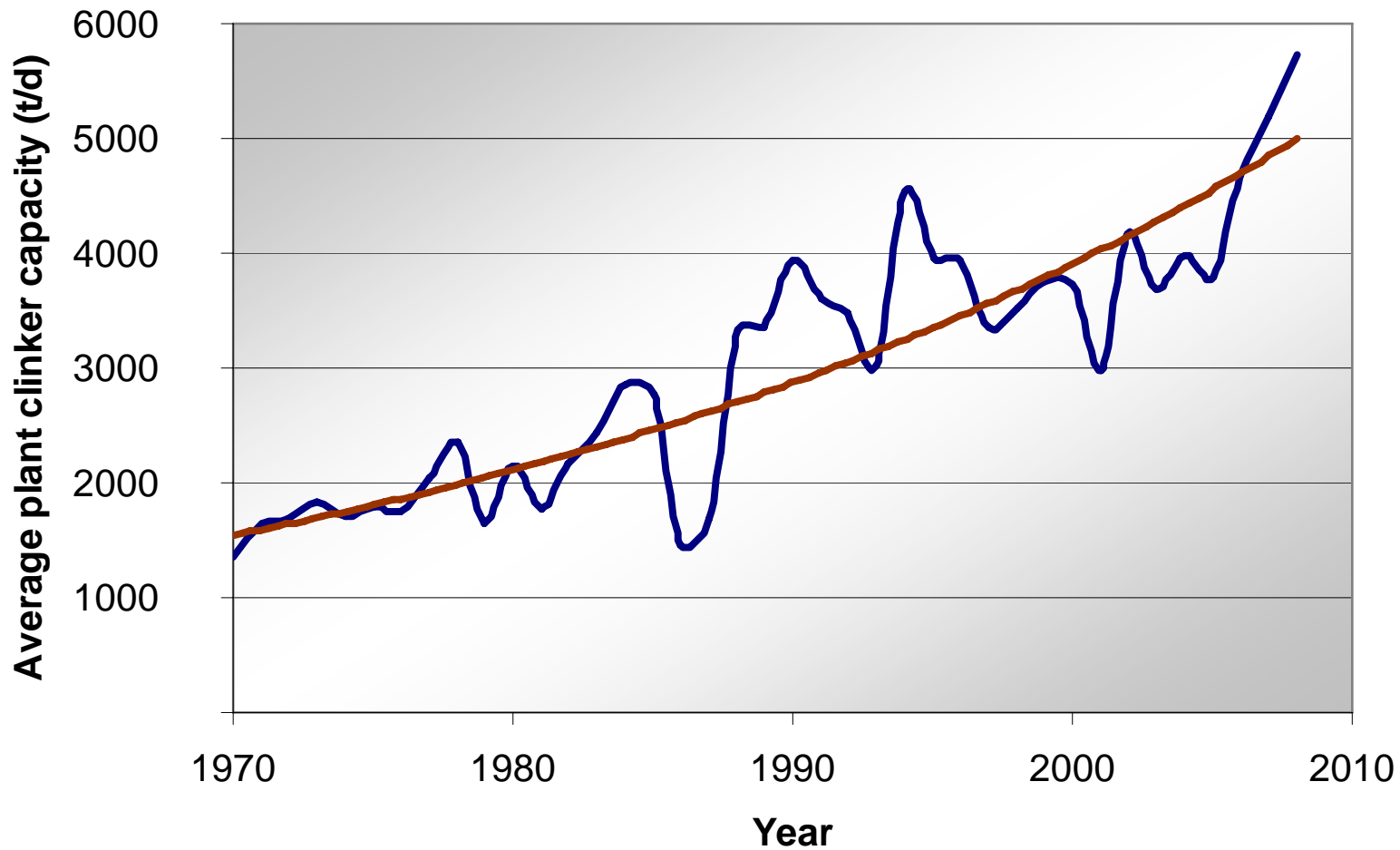


Cement kiln sizes continue to grow





Cement kiln sizes continue to grow





Long term trends

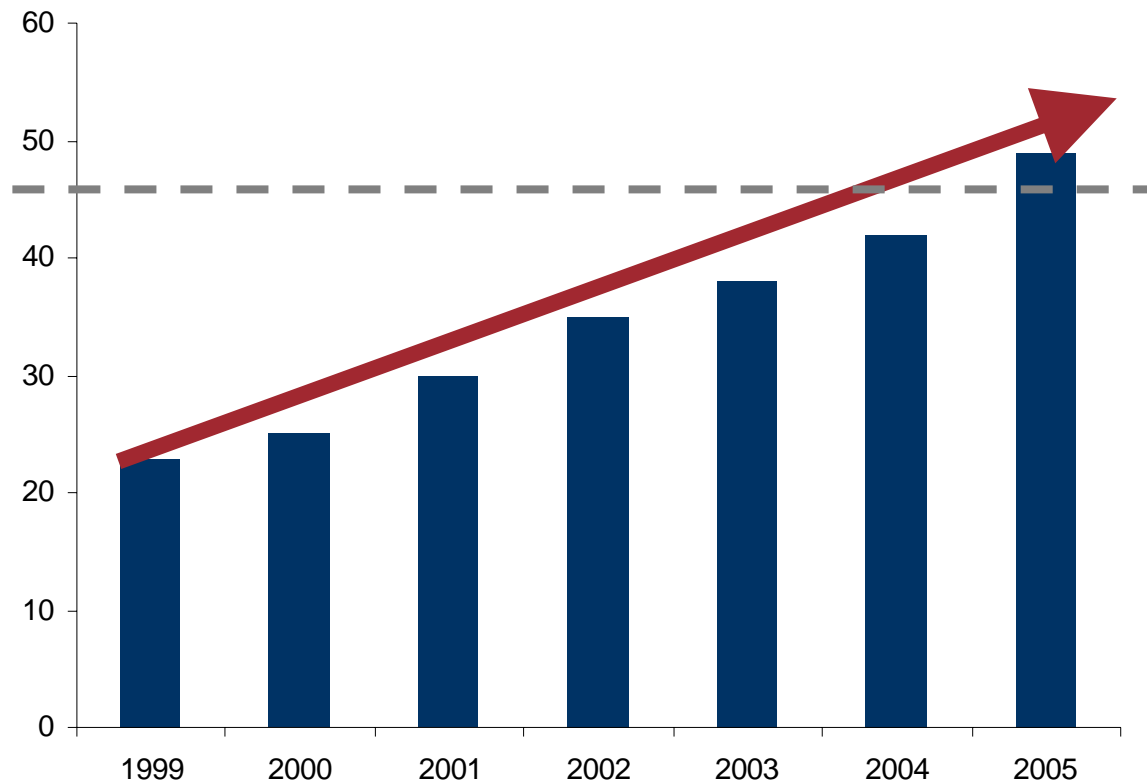
- Growing need for cement remains despite current global crisis !
- Emerging markets will continue to be the driver - now also Africa
- Cement kiln sizes growing
- Increased environmental focus





Half of the fuel used in German cement plants is alternative fuel

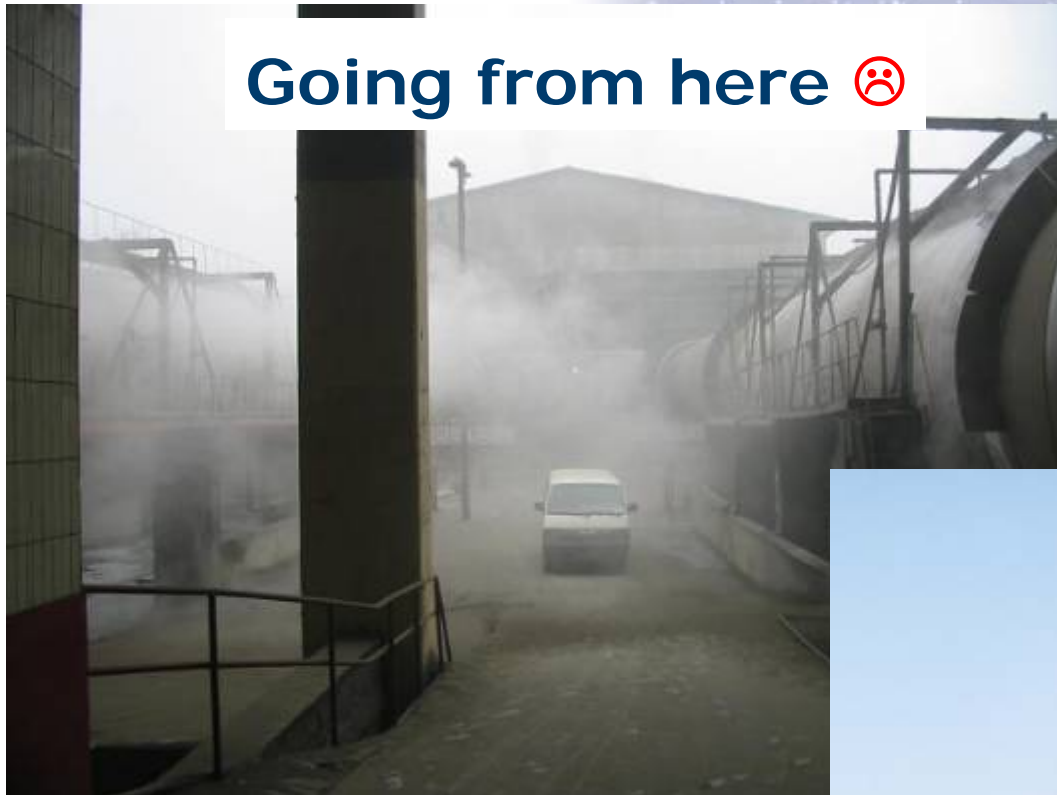
Alternative fuel energy coverage in %



Rapid increase in alternative fuel usage during the past 5 years

- due to focus on lowering production costs in a cement market with excess production capacity

Going from here ☹️



To there 😊



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A cement plant from A to Z

Customer requirements

FLSmidth strengths and capabilities

- Feasibility study
- Proposal stage and signing of contract
- Design and order handling stage
- Civil design and construction
- Erection, start-up,
- Commissioning, handover, guarantees
- Production, operation and maintenance of the plant



Feasibility stage

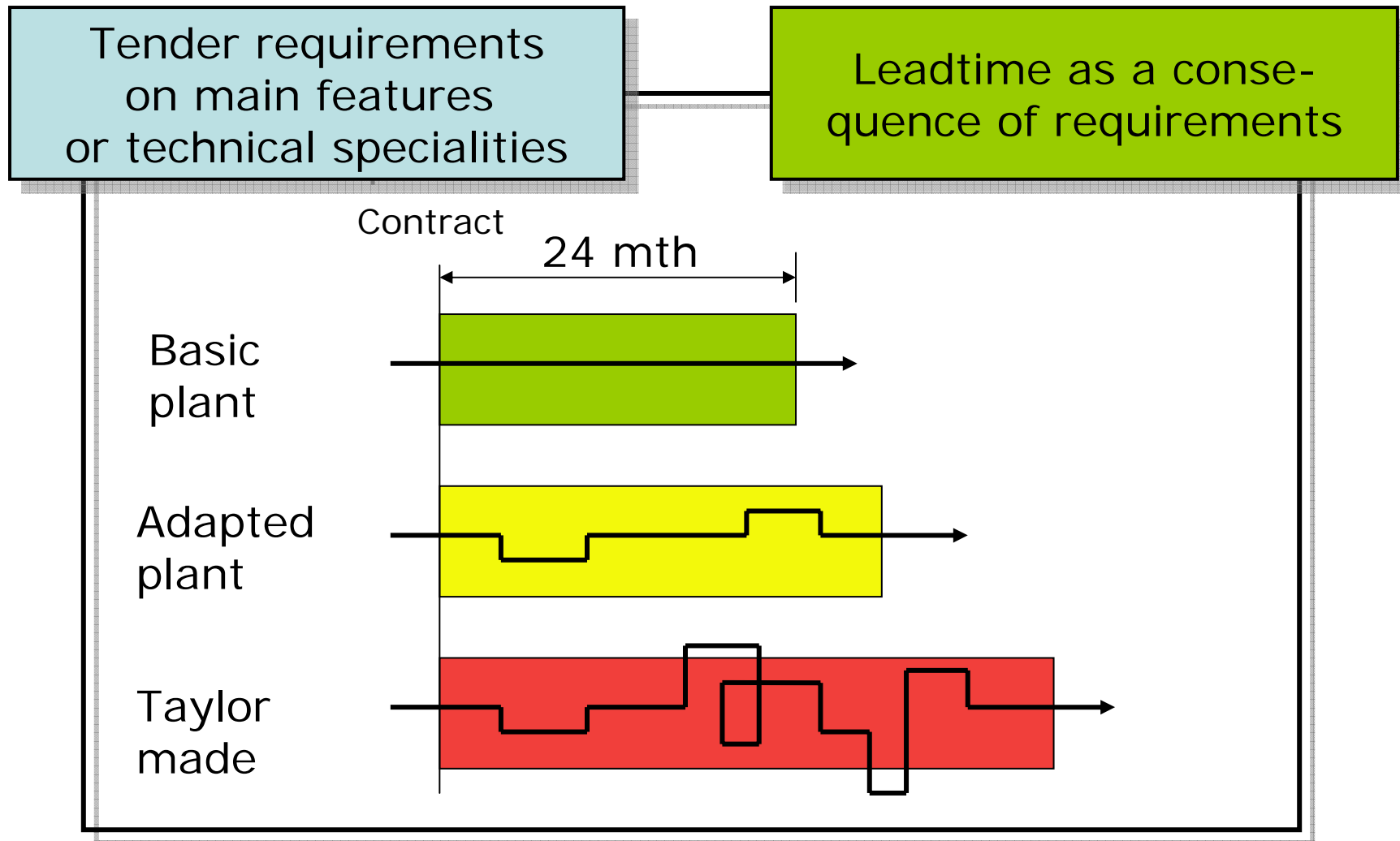
Market size, cement prices, investment costs ?

Budget proposals for various sizes





Proposal stage and signing of contract





Proposal stage and signing of contract

Raw material samples to FLSmidth

FLSmidth tests the raw materials

R&D and test centre in Denmark and India





Proposal stage and signing of contract

Optimal process and low production cost

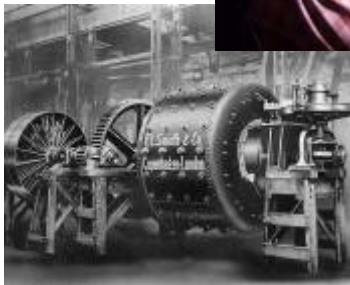
Advanced process design



FLSmidth has in house laboratory with all modern testing facilities.



FLSmidth is constantly increasing investments in research and development



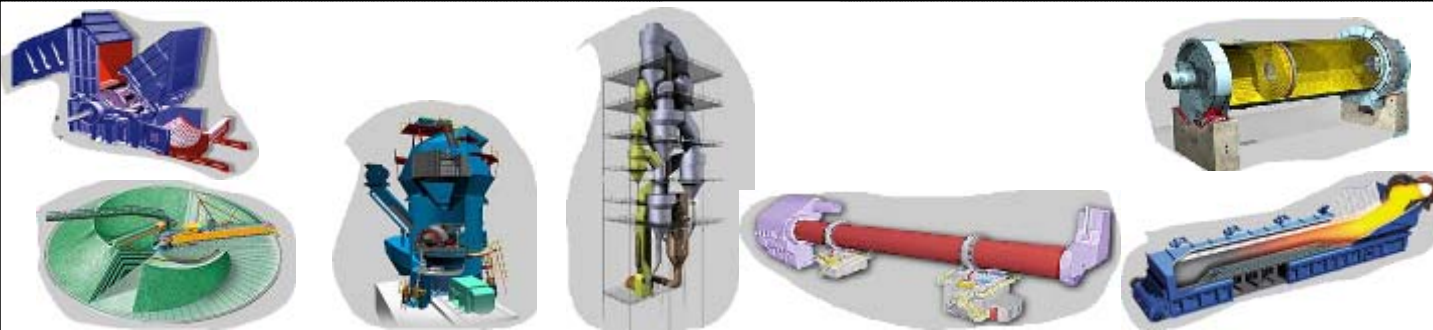
FLSmidth process designers are carrying a heritage of more than 100 years of experience and know how.



Proposal stage and signing of contract

Can we get the complete package from FLSmidth ?

FLSmidth has equipment for the entire proces



Main machines & auxiliary equipment of FLSmidth design



Electrical equipment



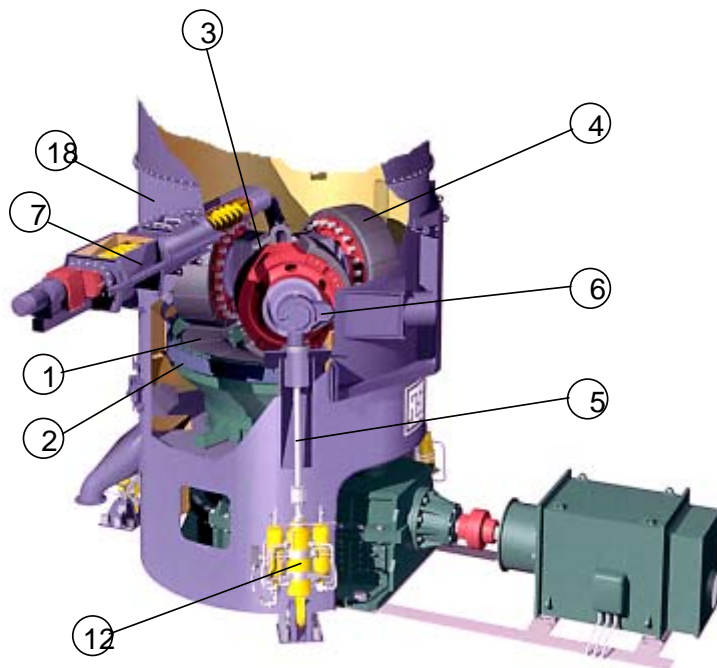
Vendor equipment



Proposal stage and signing of contract

Local supply and manufacturing

FLSmidth offers split-supply



40% imported

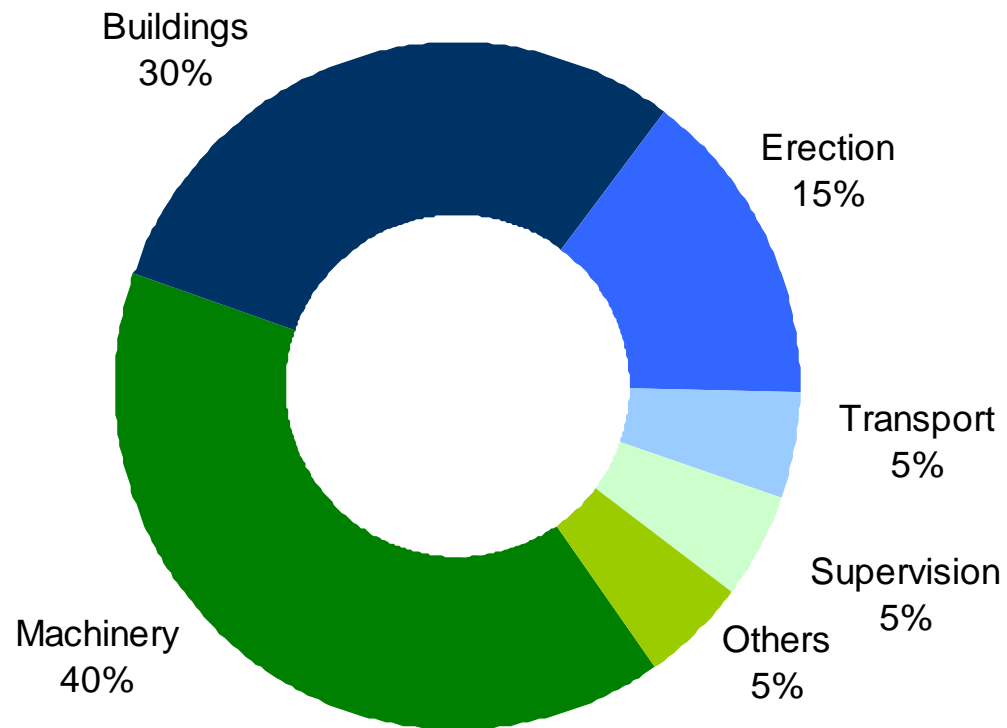
60% local manufactured



Proposal stage and signing of contract

What are the total cost?

Typical cost composition





Proposal stage and signing of contract

Equipment, civil design
or turnkey?

Different options are
possible



Equipment

Construction



Civil design

Erection



Proposal stage and signing of contract

Finding the right site information?

All information sources are used such as Google Earth etc.





Proposal stage and signing of contract

Visualisation to customer

3D layouts and models





Proposal stage and signing of contract

Visualisation to authorities

3D layouts incorporated
in actual landscape





Proposal stage and signing of contract

Signing the contract

Quick order start





Design and order execution

Safe order handling

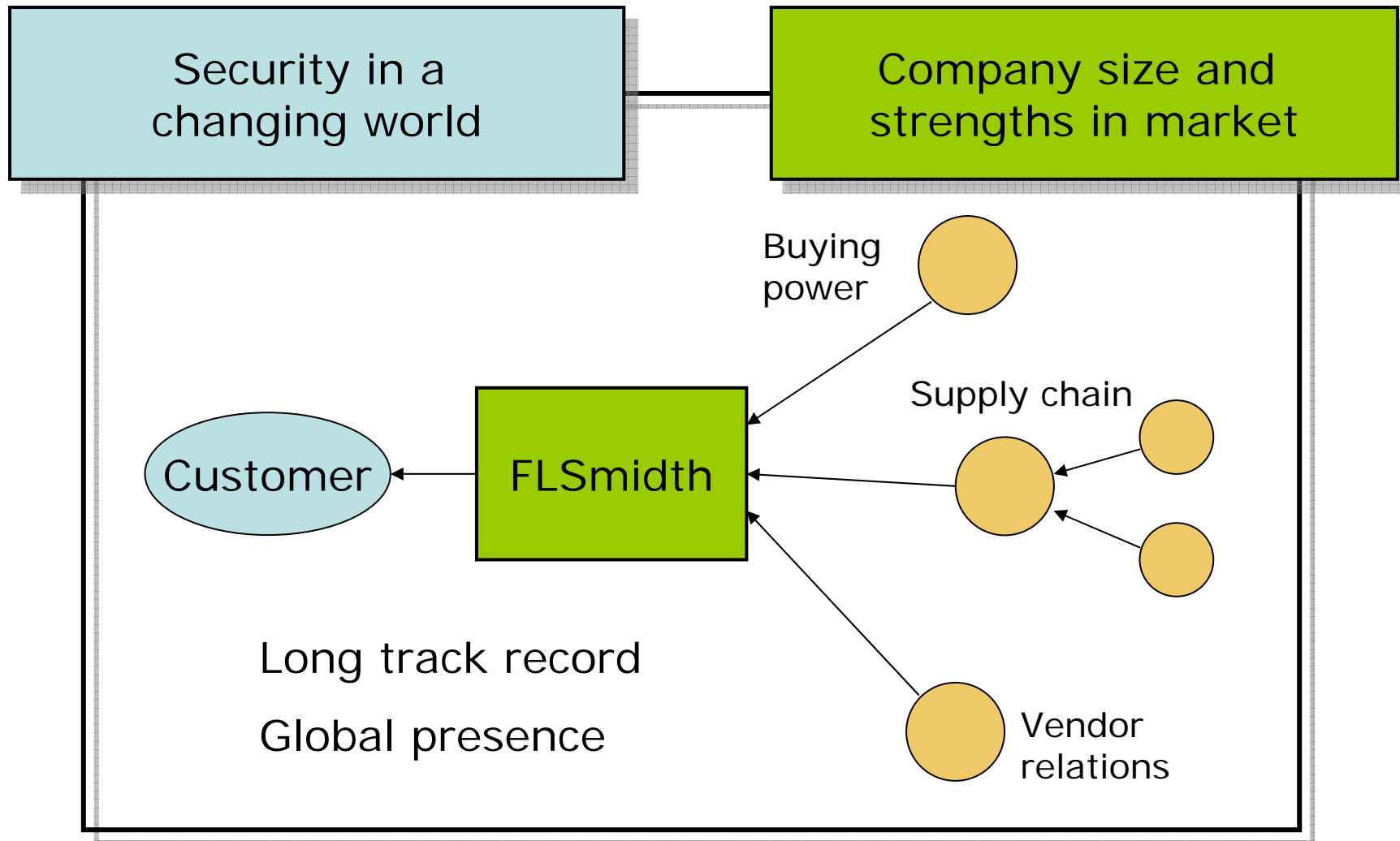
A strong project team

Experience + skills + tools





Design and order execution





Design and order execution

Close contact to the supplier

World wide design

FLSmidth Cement Project Divisions



Project Division EMEA/APAC

- Europe
- Middle East
- Africa
- Asia Pacific
- Cuba

Project Division Americas

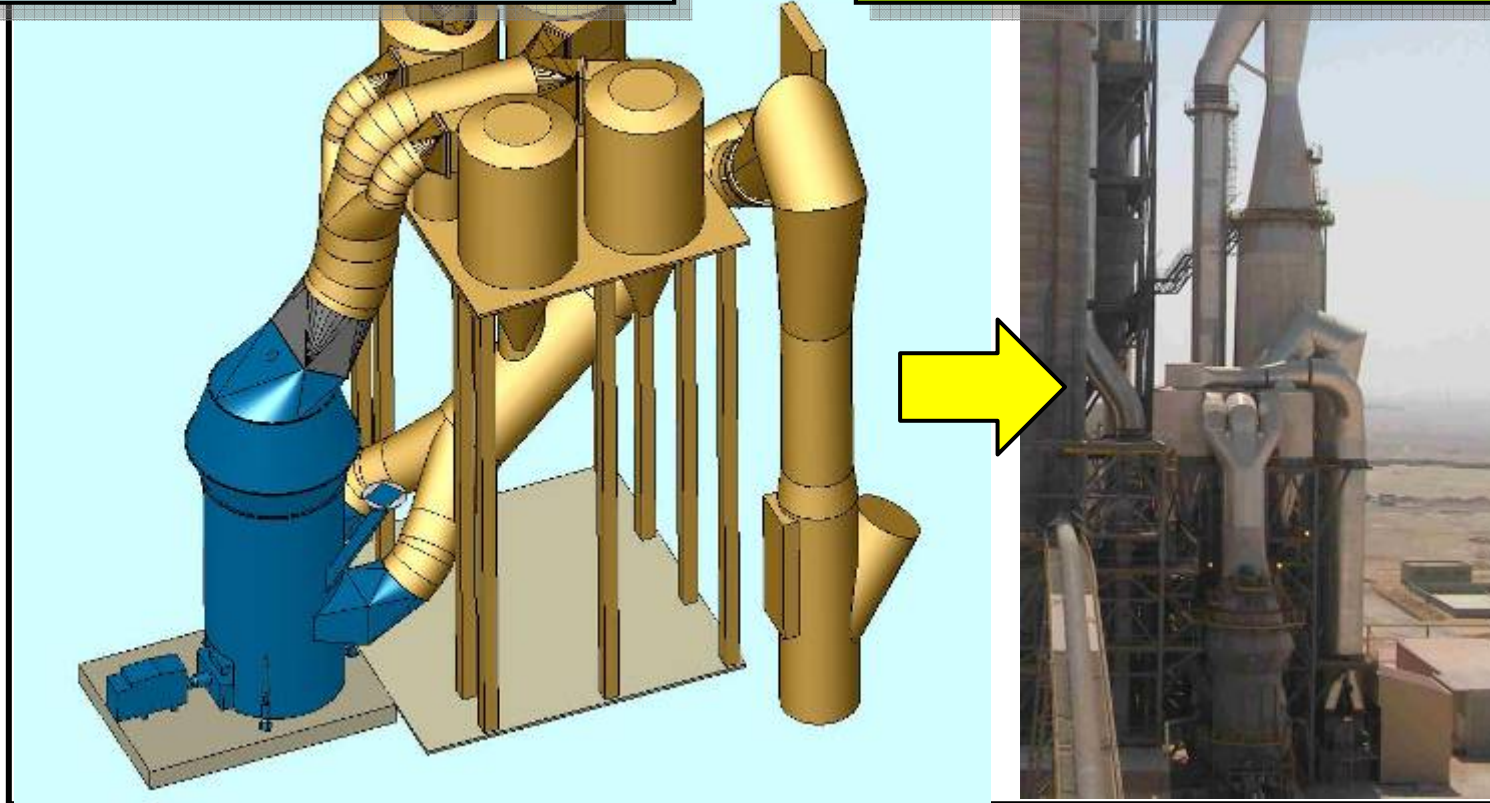
- North-, Central- and South America (excluding Cuba)
- Israel



Design and order execution

Fast civil design

Integrated technical
and civil design





Manufacturing, inspection and expediting

High quality equipment

Close co-operation with large workshops





Shipping

Safe transport

Odd-size equipment
or in containers





Construction and installation

Swift and trouble free construction and installation

Experienced and skilled supervisors



Training of client's staff

Training of staff

FLSmidth Institute
- good training programme

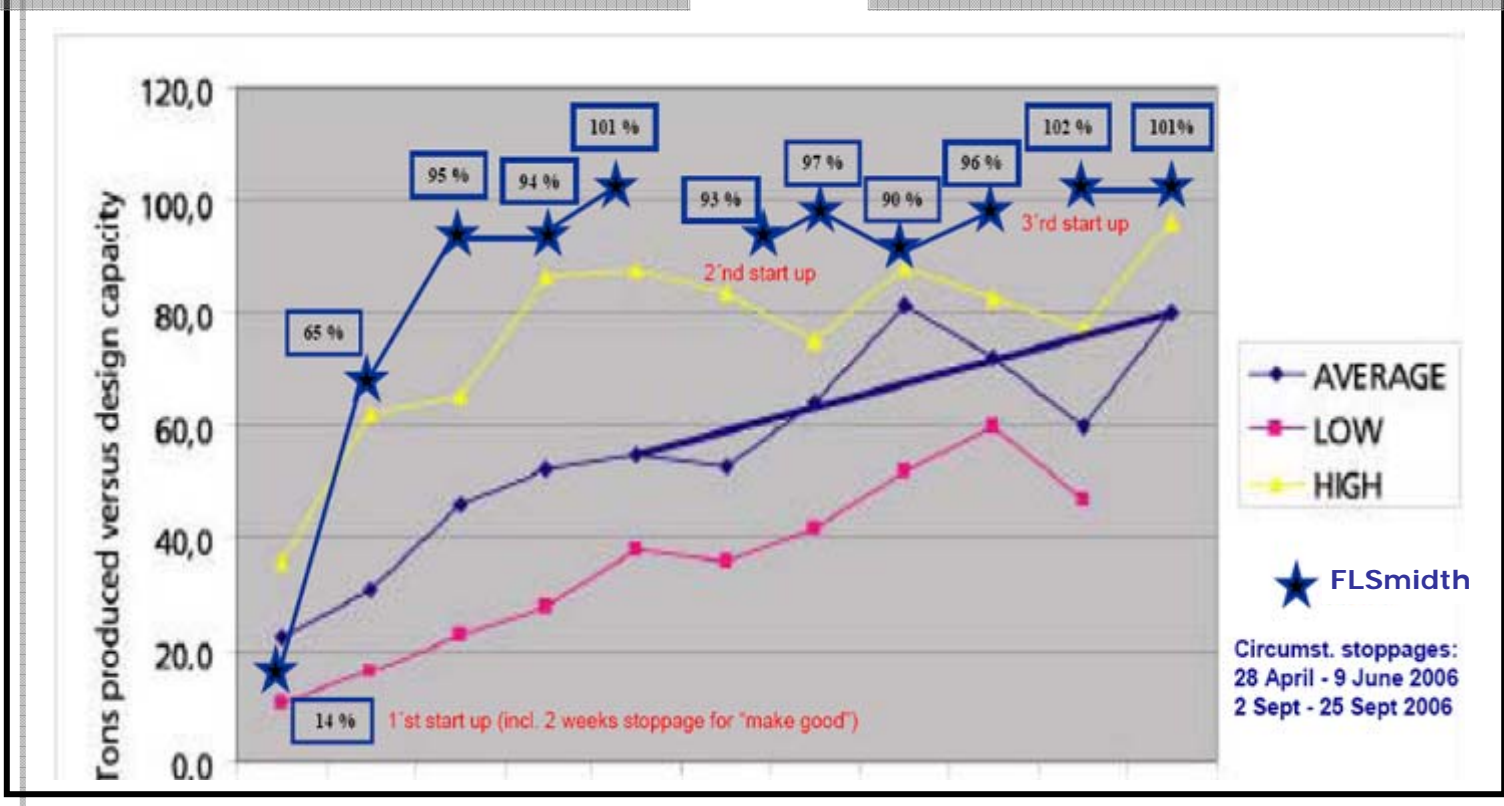




Commissioning, handover and guarantees

A swift start of the plant

FLSmidth has a good record for reaching all guarantees



Operation of the plant

A safe and economical operation of the plant

FLSmidth offers full operation and maintenance





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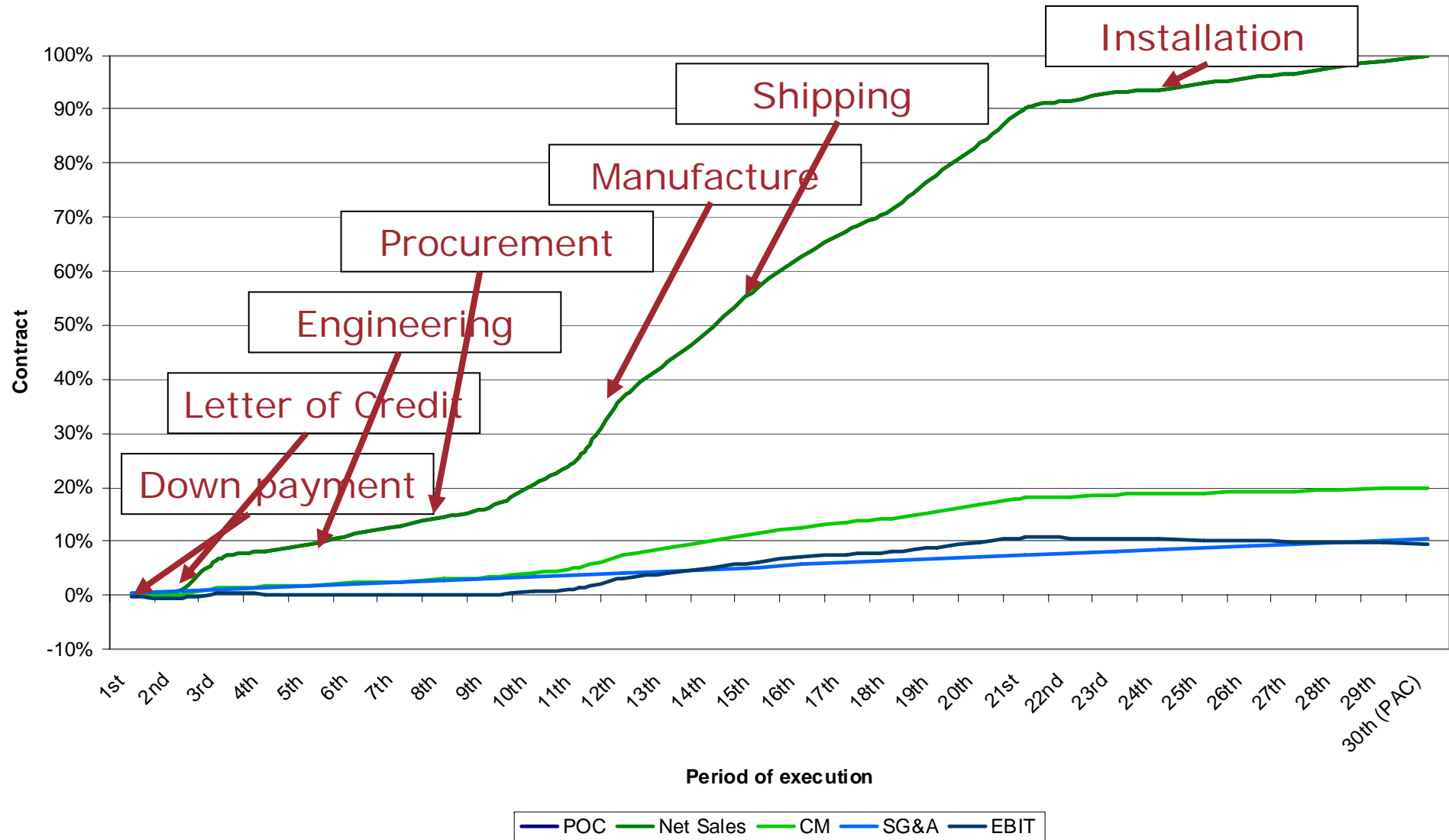


Factors contributing to uncertainty about project income

- Progress of ongoing projects
(to be addressed in following slides)
- When will signed Lol's and non-effective contracts materialise?
- General market outlook very uncertain these days !
- Even though our customers wants to move ahead with projects, they are met by financing constraints,
- *i.e. not even our customers can tell when they will be able to go ahead !*

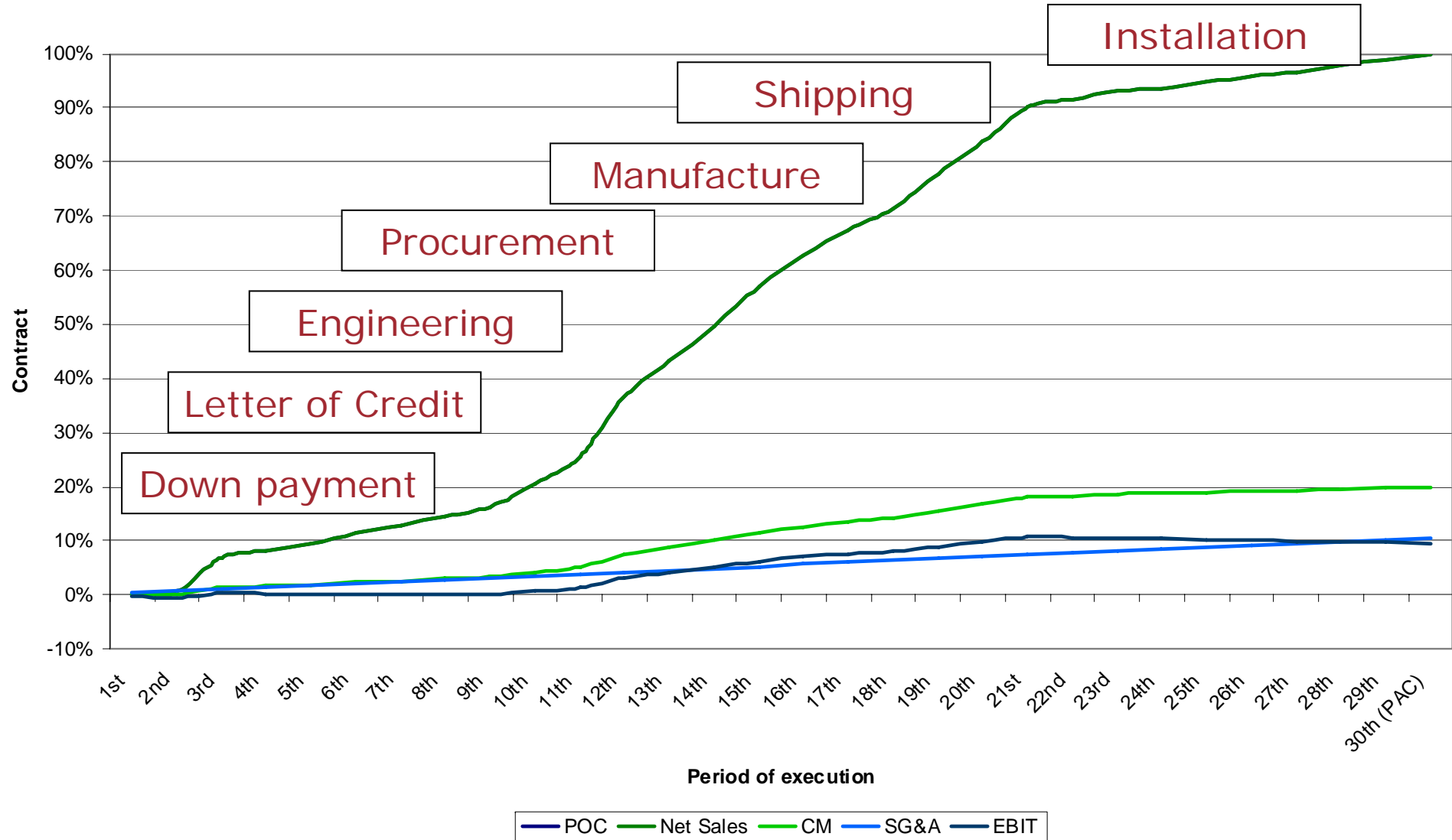


Typical project progress and income recognition





Typical project progress and income recognition





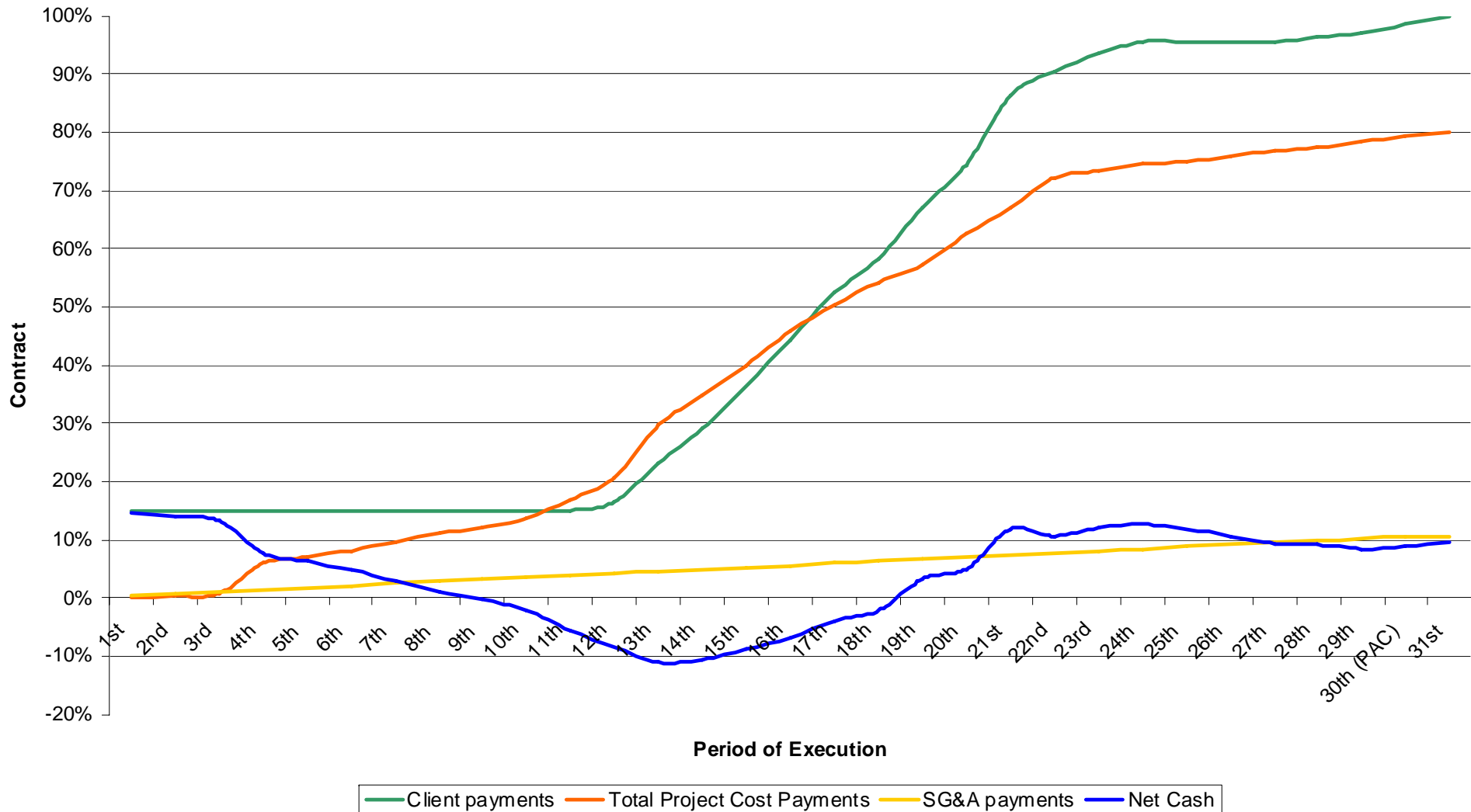
Risks in execution of a cement project

- Delayed supplies from vendors
- Client not ready to receive goods or formalities not in place (e.g. BTI)
- Client wants to postpone project
- Suspension of project due to "temporary" problems with financing
- Termination of project due to client's inability to continue

All of the above creates uncertainty about timing of income recognition...

....and just a few months delay around New Year can impact the annual result significantly !

Typical project cash flow





What happens when orders are cancelled or put on hold?

■ “Cancelled”

- Initiated work and issue of purchase orders stop
- Legal department gets involved
- We stick to our contractual rights - no matter which client
- We have the right to be compensated for incurred and committed costs and as well as a pro-rata contribution margin
- Cancellation fee to be claimed



■ “Put on hold”

- Initiated work and issue of purchase orders stop
- Contract and time schedule is amended
- We preserve the right to be compensated for any additional costs
- Some clients are constrained on cash, others are adjusting priorities





Status of our existing cement project portfolio

- Overall approx. 10 % of order backlog currently on hold.
- 3 - 4 major projects are partly suspended
 - no major cement projects cancelled so far (but some minor)
- We are in very close contact with the customers and they are all determined to carry on – but limited by financing
- Recent events on (partly) suspended contracts:
 - Receipt of progress payment – strong indicator of commitment
 - Agreement on prolonged delivery schedule
 - Agreement on finalising engineering but procurement on hold for a specified period
- At this stage we thus feel relatively confident about our existing cement project portfolio – but timing still uncertain



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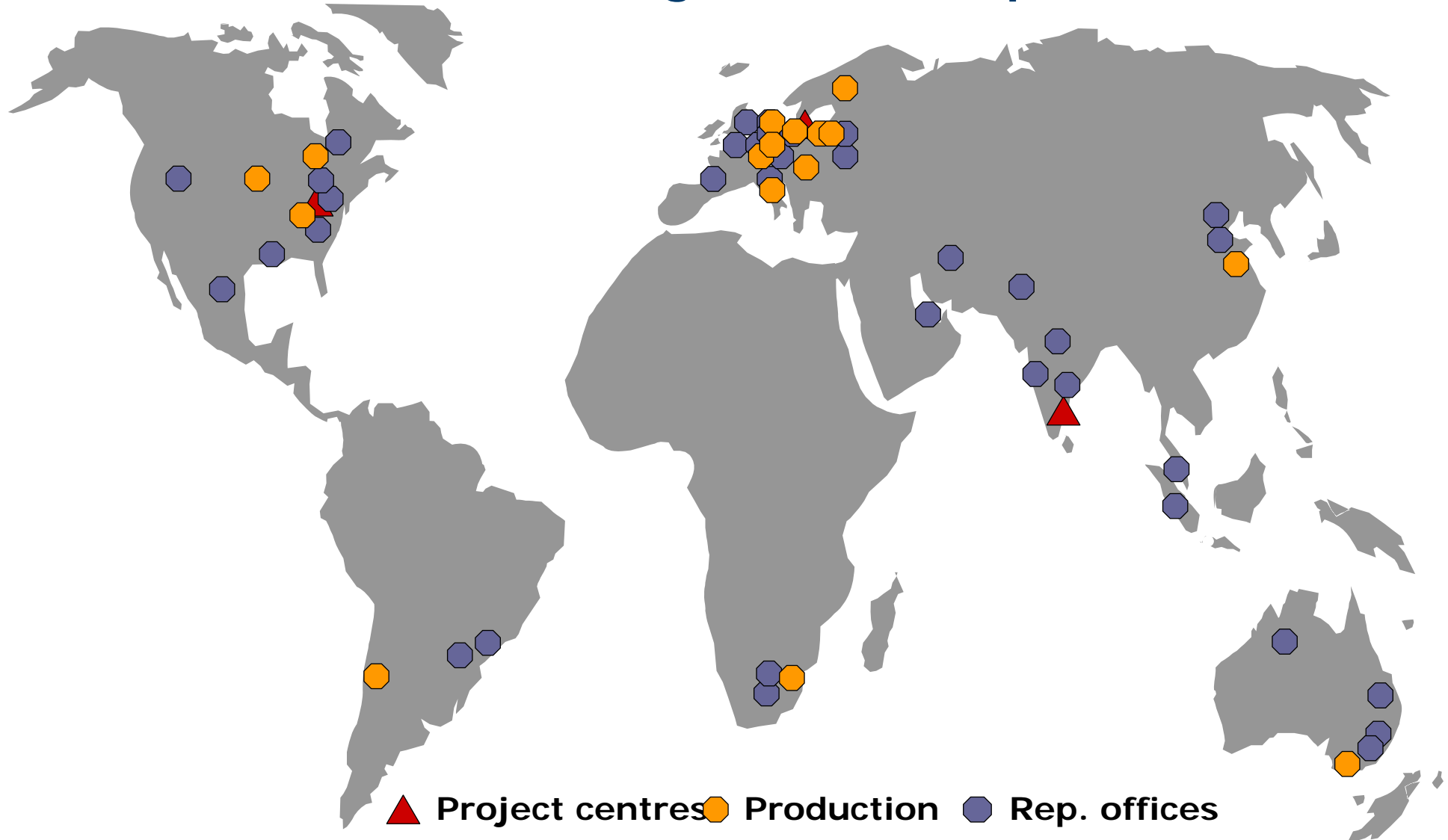


Strong belief in future prospects, because:

- We have the strongest brand in the market !
- We have a global reach – present in every corner of the world !



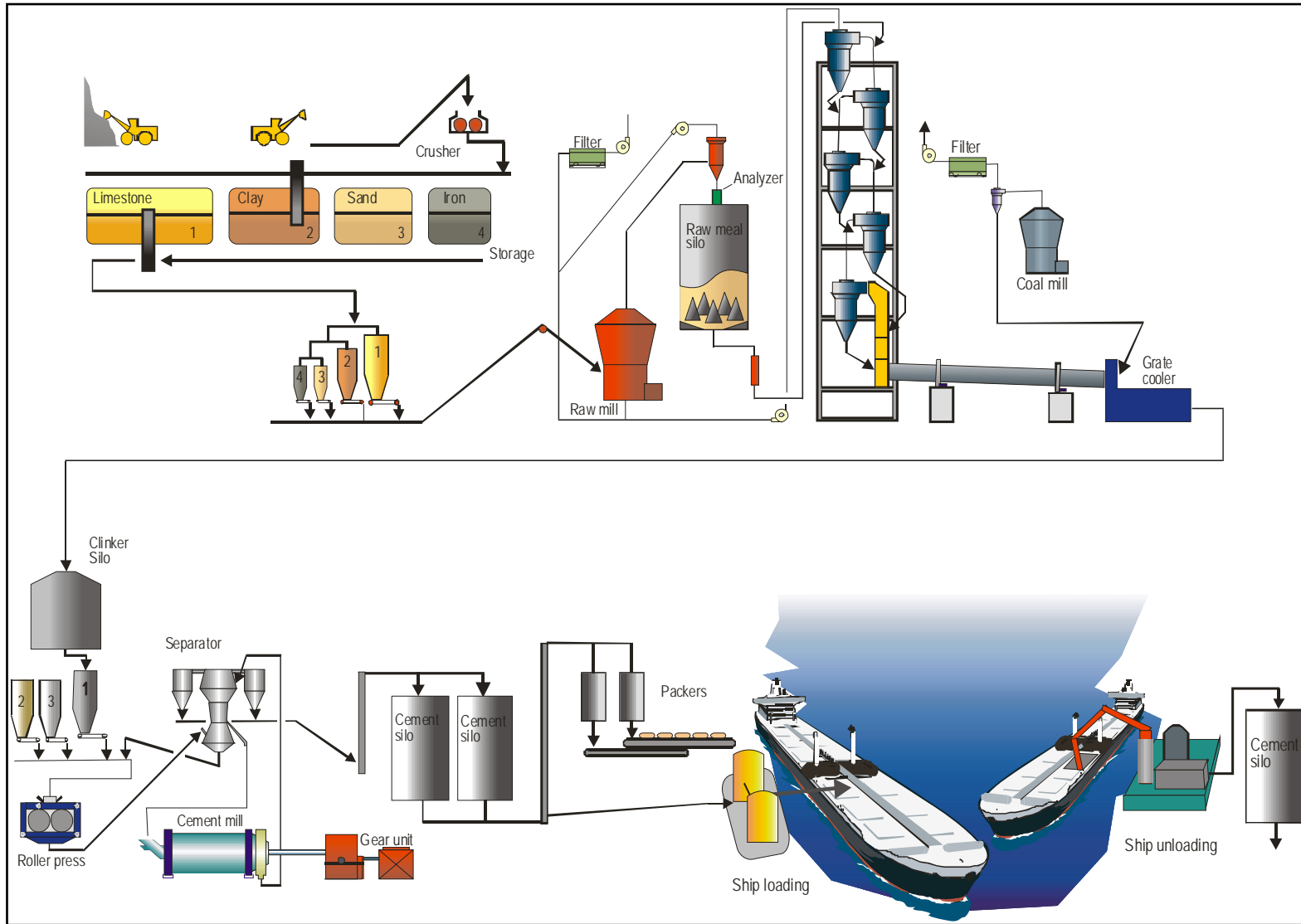
Global undertaking with a local presence





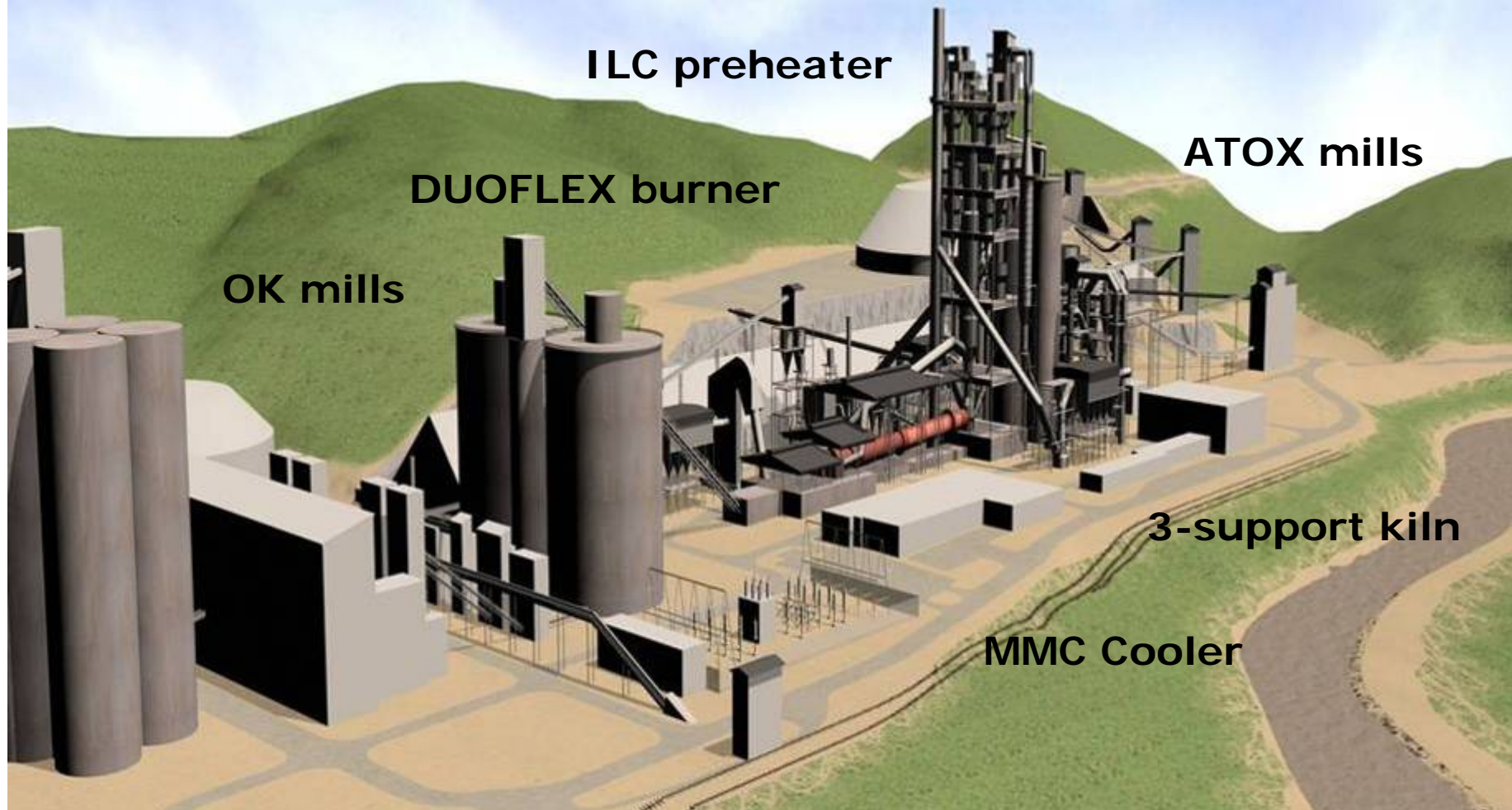
Strong belief in future prospects, because:

- We have the strongest brand in the market !
- We have a global reach – present in every corner of the world !
- We have a complete product portfolio !



Holcim Ste. Genevieve

The world's first 12,000 tpd single kiln line





Strong belief in future prospects, because:

- We have the strongest brand in the market !
- We have a global reach – present in every corner of the world !
- We have a complete product portfolio !
- We have an unsurpassed reference list !

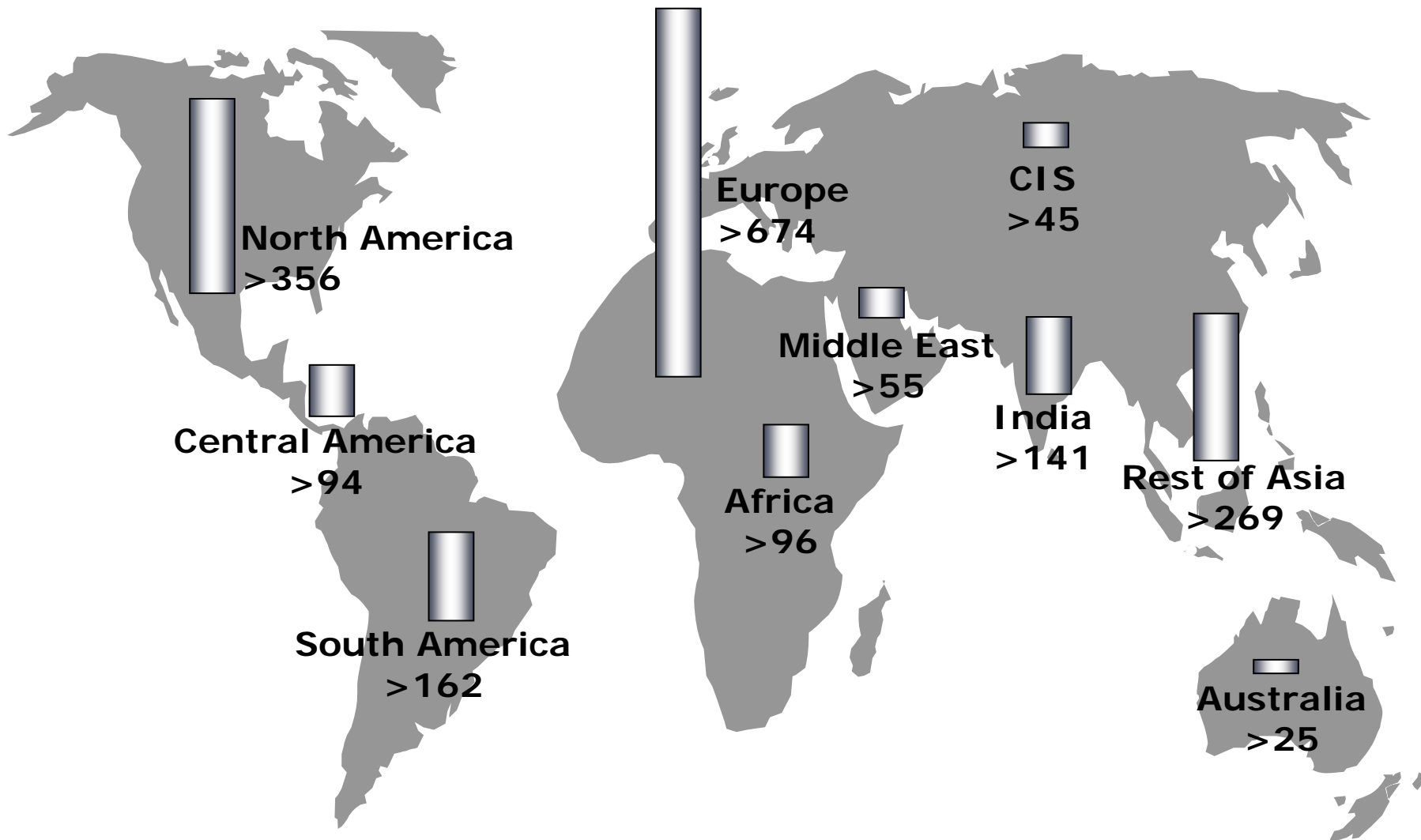
Projects the last 4 - 5 years !



> 100 new production lines
 > 150 mtpy capacity !



FLSmidth has built ~ 2000 cement kilns worldwide since 1898





Strong belief in future prospects, because:

- We have the strongest brand in the market !
- We have a global reach – present in every corner of the world !
- We have a complete product portfolio !
- We have an unsurpassed reference list !
- We are investing most in R&D !



The cement industry's largest R&D centre





Strong belief in future prospects, because:

- We have the strongest brand in the market !
- We have a global reach – present in every corner of the world !
- We have a complete product portfolio !
- We have an unsurpassed reference list !
- We are investing most in R&D !
- We are the strongest Group – Cement & Minerals

We are very well positioned for the future !



Questions

Design
Build The preferred partner
of the cement and
minerals industries
Operate
Maintain

Capital Market Day London 16.03.09 **FLSMIDTH**

The graphic features two groups of people: on the left, two workers in blue overalls and white hard hats reviewing a set of plans; on the right, two men in business suits, one holding a rolled-up document. The text 'Design Build Operate Maintain' is stacked vertically, with 'Build' and 'Maintain' in orange and the other words in blue. A small tagline is positioned to the right of 'Build'.