



**3º CONGRESSO
PORTUGUÊS
DE ARGAMASSAS
DE CONSTRUÇÃO
LISBOA - 2010**

The Global Markets for Drymix Mortar

presentation prepared by Ferdinand Leopolder, drymix.info
for the 3rd Portuguese Congress on Construction Mortars
organized by APFAC, Mr. Carlos Duarte, Chairman
Lisbon, 18 and 19. March 2010

Munich, January 2009, Ferdinand Leopolder

all material © 2002-10 by drymix.info

drymix.info, Ferdinand Leopolder

Tegernseer Landstraße 26, D-81541 München

phone +49-89-62000232; fax +49-89-62009911

e-mail info@drymix.info; internet <http://www.drymix.info>



drymix.info

100318_lisboa.ppt

The Global Markets for Drymix Mortar

Contents of this Presentation:

1. Introduction drymix.info
2. The Main Applications, an Overview
3. The Global Production Volumes (special focus: China statistics)
4. Trends (Companies, Products)
5. The Main Drivers for Drymix Mortar Technology
6. Challenges to the Drymix Mortar Industry
7. Special Topic: Current Economic Turbulences

Opening Remark

The topic of Europe has been assigned to Neil Beningfield, Brasil will be covered by Fabio Campora.

I will try to focus onto other interesting markets and show the global trends, and I apologize in advance if any duplications or redundancies occur.

1.1. About the Author

Ferdinand Leopolder

Ferdinand Leopolder, 51, married, two children studied German Literature, Theatre Sciences and Philosophy at Ludwig Maximilians Universität in München and later at Friedrich Alexander Universität Erlangen-Nürnberg (Prof. Sandig).

1988 Raschig Corp., Richmond, VA: road resurfacing systems, emulsifier production and polymer recycling (PP and PVC).

1991 Wacker Chemie GmbH, Munich: Global Market Development for redispersible powders.

2002 drymix.info, The International Community for Drymix Mortars: industry consulting, networking, journalistic activities, events, database development

2006 MEDMA, SEADMA: founding and COO of South East Asia Drymix Mortar Association SEADMA and of the Middle East Drymix Mortar Association MEDMA.



© 2008; Amrei Kemming



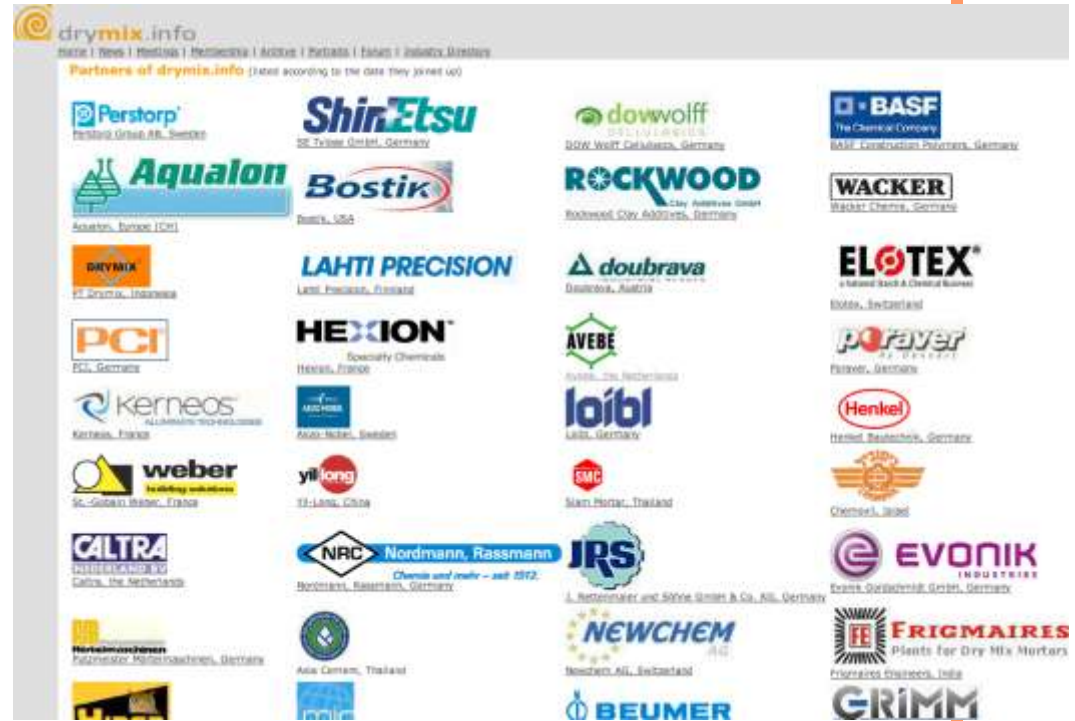
1.2. about drymix.info

The International Community for Drymix Mortars

drymix.info, the International Community for Drymix Mortars furnishes the industry with up-to-date information and services, such as:

- Newsletter (monthly)
- Industry Directory
- individual consulting
- technical forums
- conferences
- publications
- technology transfer

Drymix.info is a member- and partner supported activity (annual membership fees).

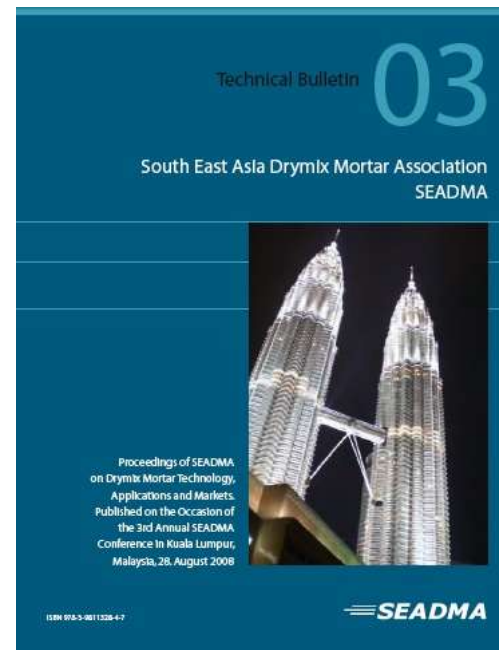
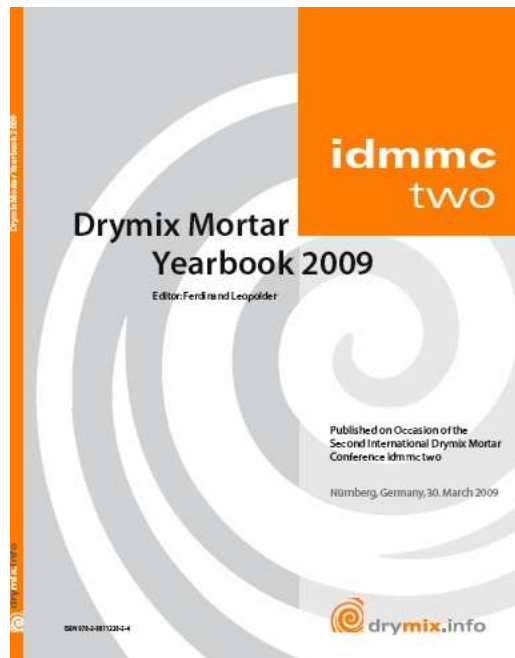


1.3. about drymix.info

PUBLICATIONS

drymix.info edits and produces:

- Drymix Mortar Yearbook
- Technical Bulletins for MEDMA and SEADMA



2.1. about Drymix Mortars Technological Improvements

The re-building after WW II brought a lot of technological improvement for mortars. This period is essential in the industrialisation of mortars. The technological leap led to the formulation of **drymix mortars as we know them today: single component systems.**

Milestones:

- 1950 adaptation of Cellulose Ethers
- 1957 first redispersible powder
- 1968 low emission dispersions
- 1970 first machine renders
- 1974 energy crisis: emerging of EIFS
- 1985 self-healing SLU, superplasticizers
- 1990 spread into Eastern Europe
- 1997 installation of EN for CTA and Grouts
- 2000 explosion of demand in China



one of the first mortar mixers in action on a jobsite in Germany (Putzmeister Unit?) ca. 1970

Photo: courtesy of Kalk werke Mathis (=>maxit => Saint-Gobain Weber

2. About Drymix Mortars

Applications Overview/Definitions

Application	Short Classification and Main Function
Masonry Mortar	joining of bricks and blocks
(Thick) Flooring Screeds	levelling of concrete floors, sound insulation
Renders, basic	levelling and finishing of exterior walls
Plasters	levelling and finishing of interior walls
Special Construction Adhesives	joining of special construction materials such as Aerated Lghtweight Concrete blocks (ALC blocks)
Renders, decorative	finishing, structuring and coloring the exterior surfaces of a building
Tile Adhesives	fixing of wall and floor tiles
Tile Grouts	filling of tile joints, decorating tiled surfaces on walls and floors
Exterior Insulation and Finishing Systems EIFS	thermal insulation of the exterior of a building
Concrete Renovation	repair of damages to load-bearing concrete structures
waterproofing slurries	protection of concrete, piping, storage tanks from adverse climate effects or bactriological and chemical decay, also subgrade protection
SLU (thin flooring screeds)	levelling of floors, preparation for installation of flooring materials such as tiles, parquet or carpets

Complexity

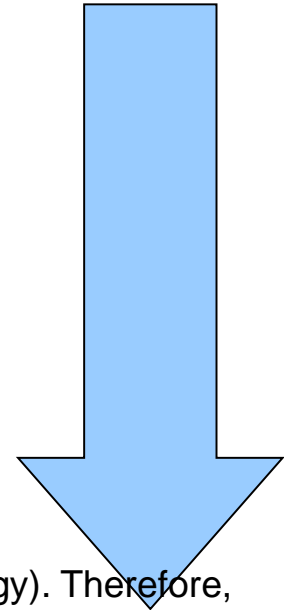


2. The Main Applications

2.2. Level of Market Development

(by succession, Substitution Rate in % *)

Application	Europe	World	Competing Technology	Sophistication
masonry mortar	65	2	site mix	
screeds (thick)	75	5**	site mix/hand worked	
renders (ext.)	85	5	site mix Lime/cementitious	
plasters (int.)	95	50	site mix	
Tile Adh./Grouts	65	25	pastous, site mix	
EIFS	65	?**	pastous or anchor systems	
Waterproofing	35	35	polymer based, pastous	
Concrete Repair	45	45	other polymer systems	
Specialty Mortars			various systems	
SLU	55	55	epoxies	



The substitution process is being pushed by legislation, application mix, logistic requirements, climate and cost of labor (level of construction technology). Therefore, the highest substitution rates are being found in Central and northern Europe, namely in Germany, BeNeLux, Switzerland, Austria, France, Scandinavia, to a lesser degree in Italy and Spain. Eastern Europe is catching up quickly.

* estimated 2005 in % of volume

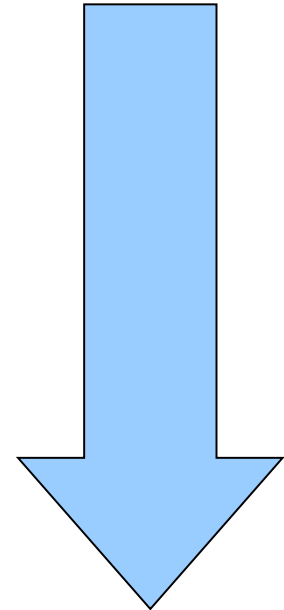
** no comparable application yet

2. The Main Applications

2.2. Potentials per Market

(by succession, Substitution Rate in % *)

Application	Europe	World	Competing Technology	Sophistication
masonry mortar	small	very high	site mix	
screeds (thick)	limited	high	site mix/hand worked	
renders (ext.)	small	high	site mix Lime/cementitious	
plasters (int.)	small	(sources?)	site mix	
Tile Adh./Grouts	medium	high	pastous, site mix	
EIFS	medium	(climate?)	pastous or anchor systems	
Waterproofing	high	high	polymer based, pastous	
Concrete Repair	high	high	other polymer systems	
Specialty Mortars	high	high	various systems	
SLU	medium	high	epoxies	



In general, progress can only be made if proper distribution structures exist.

Especially for the volume mortars, a lot of education is necessary in virgin markets.

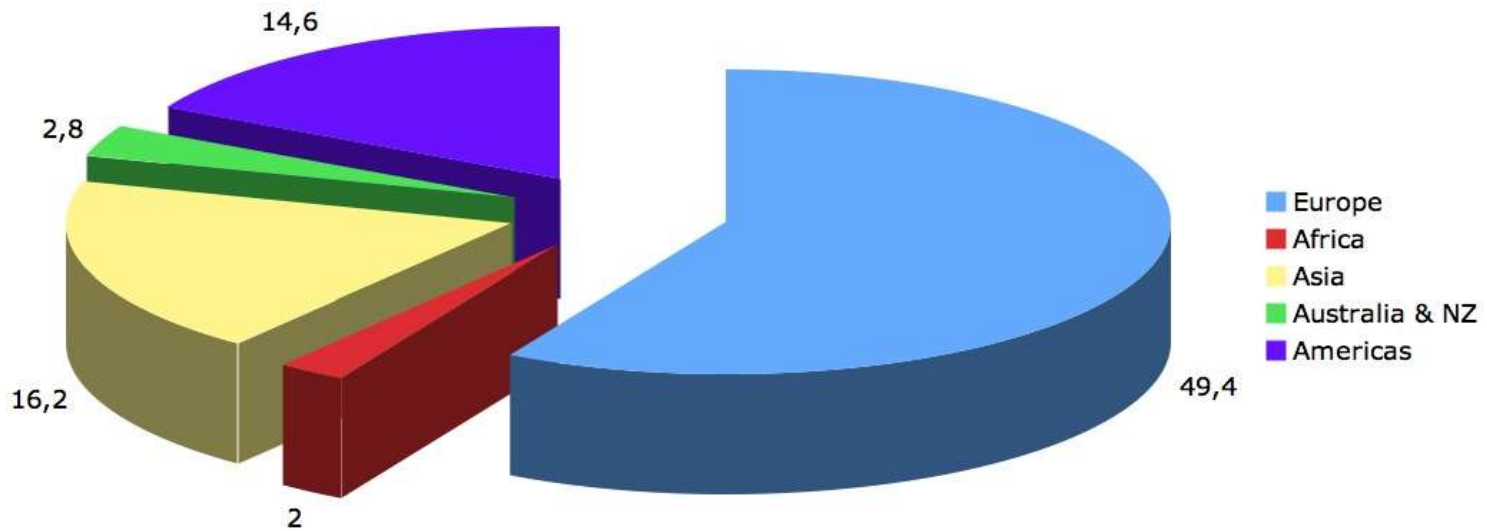
* estimated 2005 in % of volume

** no comparable application yet

3. The Global Production Volumes

3.1. Estimate of World Production 2006

Drymix Mortar Production 2006 in Mio t



Production Volume 2006: 85,0 mio t

Estimates

2007: 100 mio t

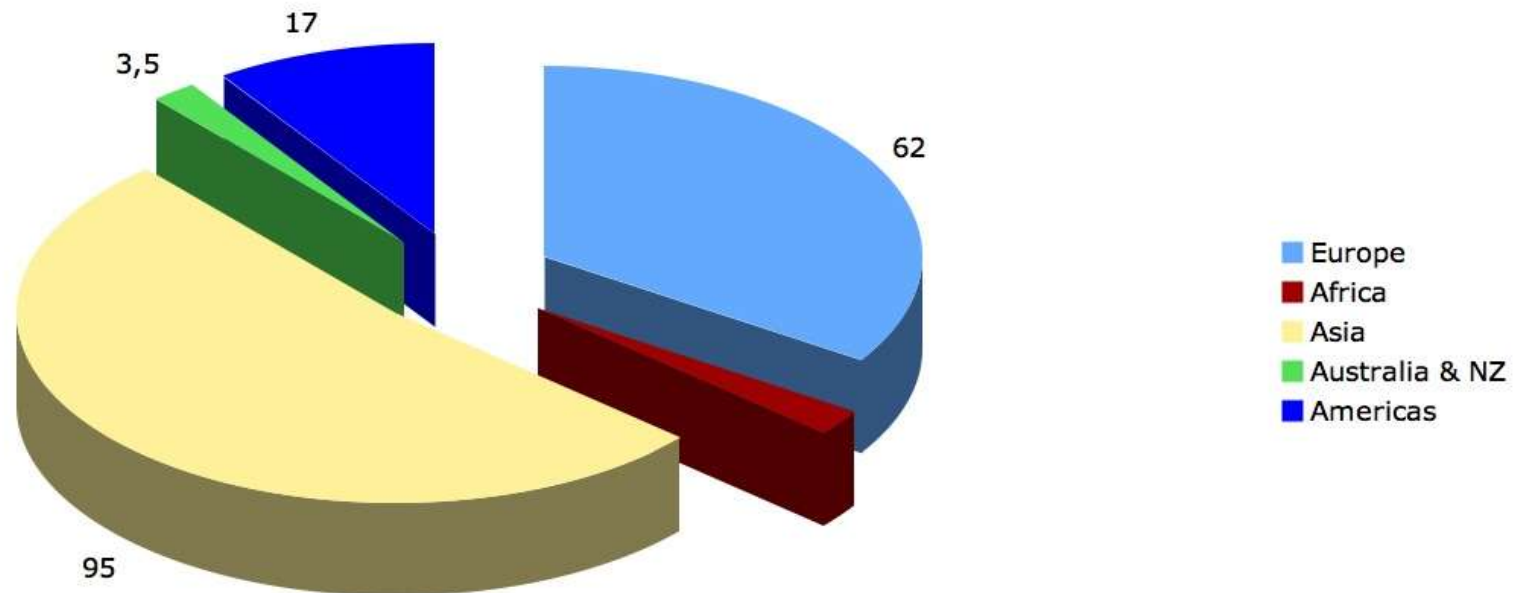
2008: 95 mio t

2009: 102 mio t

3. The Global Production Volumes

3.1. Estimate of World Production 2011

2011: Drymix Mortar Production (in mio t)



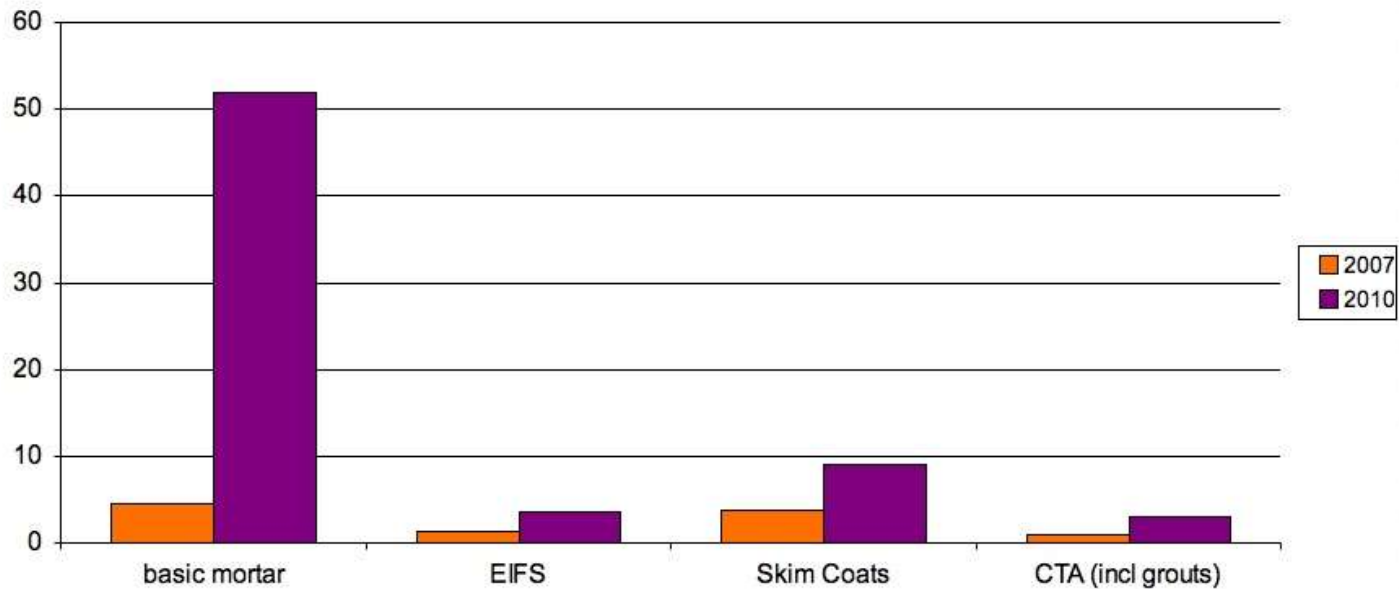
Production Volume 2011: **181,5 mio t** ?????

Main influence: projected development in China

3. The Global Production Volumes

3.1. Mortar Volumes Special Focus: China

China Market Growth by Applications (in mio t)



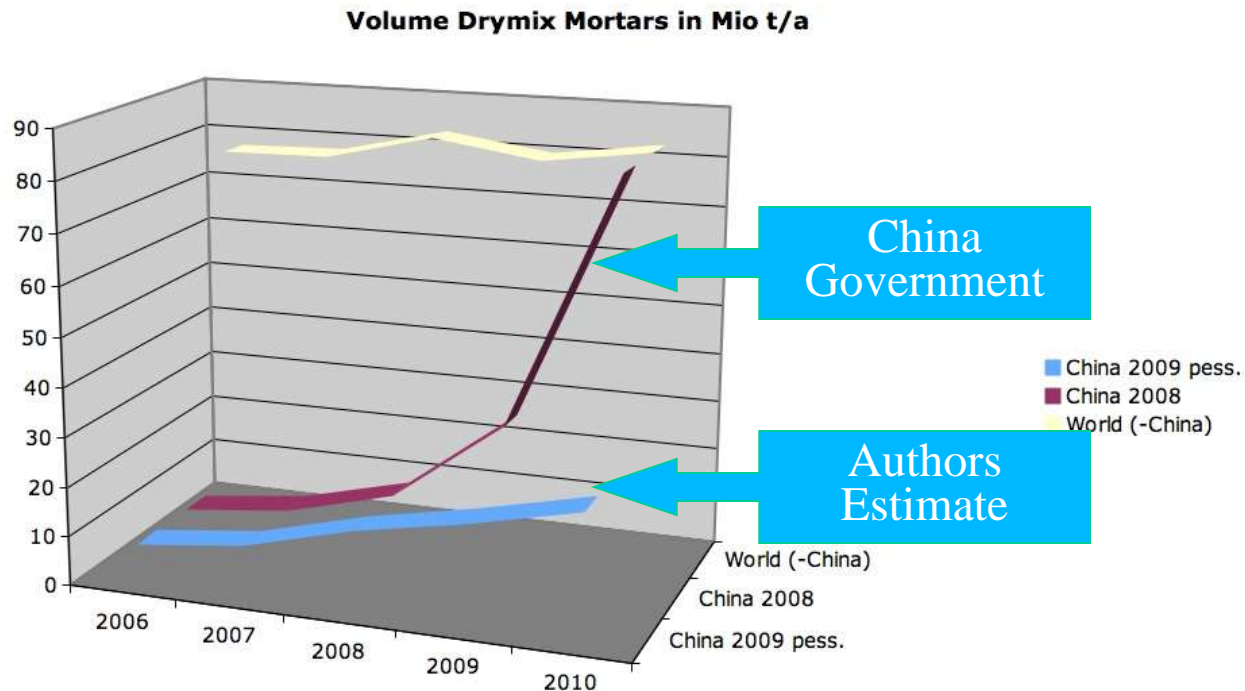
Production Volume
2007: 15,8 mio t
2010: **83,0 mio t** ????

Projection of mid 2008
quoted acc. to Marcchem, Beijing, 2008

3. The Global Production Volumes

3.2. Mortar Volumes Special Focus: China

Using the 2008 projection, China can reach close to 45% of the global mortar volume by 2010, this is partly due to the economic slowdown in Europe and the US, but also to the chinese legislation for the ban of jobsite mixes. The blue line represents a more pessimistic projection, with annual growth rates of approx. 30%.



4. Market Trends

4.1. Internationalisation, Consolidation

During the last 10 years, a strong consolidation process could be observed on a global level, especially in Europe. Specialty manufacturers widen their base by acquiring abroad and volume oriented producers merge in order to improve their logistical advantages. Examples:

Group	acquired company	Region
Ardex	Lugato, Norcross	Germany, Australia
Basf/PCI	Degussa(MBT)	global activity
Caparol	Alsecco	Germany
Baumit Group	Bayosan Wachter	Germany
Maxit	Deitermann, Beamix, Optiroc (Hanson)	D, Be, Scandinavia (GB)
Mapei	Sopro and others	Germany, other Nations
Hasit	Röfix	Austria, Italy
Parex	Davco, Klaukol, LaHabra, Mercrete	Australia/SEA, Americas
St. Gobain/Weber	Quarzolit, Conmix India, Maxit (approval of EC anti-trust authorities pending)	India, Europe

Examples for Mergers & Acquisitions from 1998 to 2006

4. Trends

4.1.2 Independent Players outside Europe

Many independent players have been acquired in the late nineties/early 2000s, however, new ones emerge every year, others get stronger. Examples:

Company	Plant(s) Description	Region/Nation
Aditya Birla	2 plants with over 500 kt/a, part of Grasin Birla White Cement	India
Beijing Building Academy	2 plants, approx. 300 kt/a	China/Beijing
Custom Building Products	over 12 plants, capacity not determined, owned by Venture Capitalists	USA, Canada
Glims Production	2 plants, capacity not determined	Russia
Hanil Cement	several plants with over 3 mio kt/a	Korea
Plaxit	2 plants with over 450 kt/a	UAE
Siam Mortar	3 plants with over 600 kt/a, part of Siam Cement	Thailand

4. Trends

4.2. Population and Environment

Food - Water - Energy Preservation

From 1970 to the year 2000 cleaning up of the environment and the prevention of future pollution was the main topic for international politics and NGOs alike.

Natural resources and global warming came into focus since 2000.

The need to nourish the growing world population, to save of surface and groundwater and to preserve energy will lead to a new generation of intelligent building products, which will be partly imposed as legally binding technologies onto builder & developers worldwide.

It is the task of the drymix mortar industry to prepare intelligent products such as

Waterproofing for sewers and channels

External Thermal Insulation (EIFS/ETICS)

Concrete Repair & Maintenance Products

Dry Paints for White Roof Programmes

Photocatalytic Renders & Dry Paints

...

seepage, evaporation

loss of heat or cooling

loss of structures

building heat-up

indoor/outdoor air pollution

4. Trends

4.3. Applications

As seen on the previous slide,
EIFS is clearly the drymix mortar
application with highest growth

Growing prosperity causes demand
for architectural products such as
Tile Adhesives and Skim Coats

Old systems for concrete protection
(asphalts) need replacement by
cementitious slurries



4. Trends

4.3. Application Technology

The use of mortars in **bulk silos** (granel) offers many advantages for the contractors in terms of logistics and efficiency increase. There is a lot of potential throughout the world especially in urban agglomerations.



Mortar pumps and mixers are the key to consistent quality on the jobsite, growth in screeds, masonry mortars, (exterior) renders and (interior) plasters can be expected in most markets



4. Trends

4.4. Key Drivers for Drymix Mortar Technology

Ecology

long-term performance
low maintenance

GREEN BUILDING

huge savings

Performance

perfect installation
quality, no failures

CLEAN BUILDING

living quality

Efficiency

optimum usage of
human resources
and materials

QUICK BUILDING

time

4. Trends

4.5. Improving the Mortars = Growing the Markets



4. Trends

4.6. Megatrends

Energetic Restoration Continues its Success Story

Quality Renovation Becomes a Premium Market Globally

Alternative Binder Systems (reduced CO₂ output)

Reduction of Maintenance Cost (durability of new construction)

Growing and Prospering Middle Class Emerges Globally

Backlog in Infrastructural, Residential and Commercial Real Estate
all over the World

5. Challenges to the Drymix Mortar Technology

5.1. Overview

The ongoing discussions about environmentally compatible construction technology and consumer safety must make us face the following challenges:

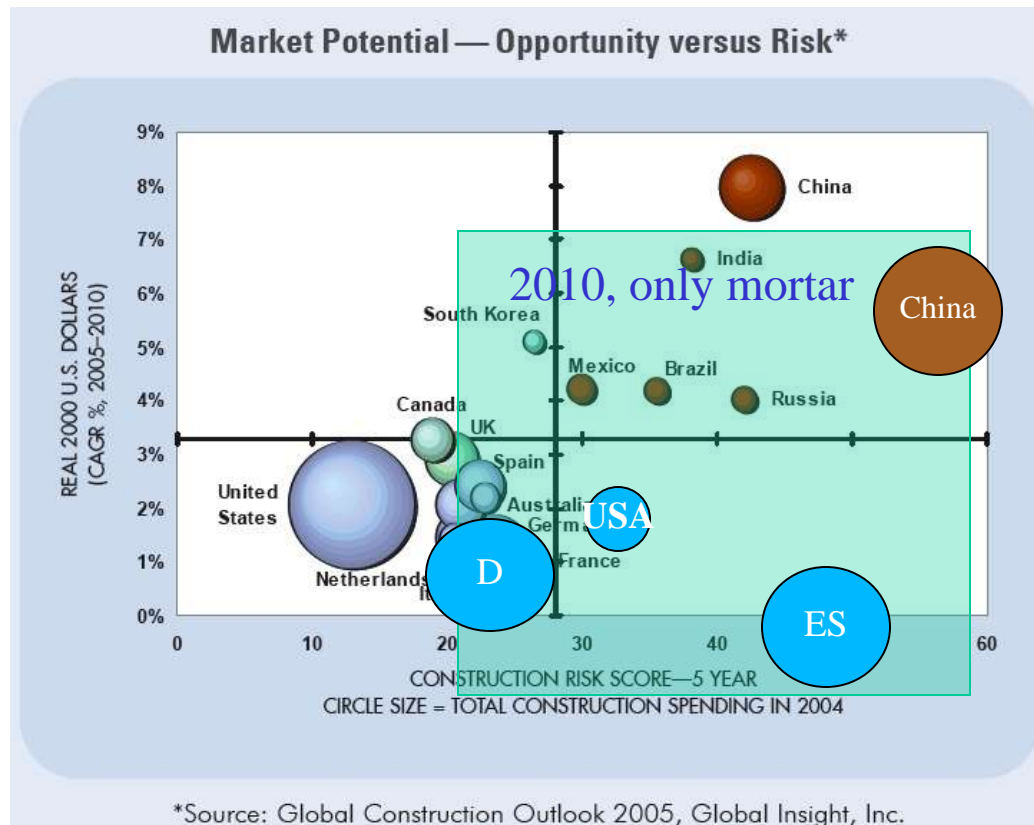
- The Eco Balance of Cement, our main binder
- Implications stemming from the REACH regulations
- Trade barriers and restrictions to the flow of KnowHow
- **the recent financial crisis** (see following slides)

5. Challenges to the Drymix Mortar Technology

5.2. Special Topic: Financial Crisis/Recession

What is Happening?
A few examples.

2005, global construction



5. Challenges to the Drymix Mortar Technology

5.2. Special Topic: Financial Crisis/Recession

Major Changes in the Financial World - Real World Consequences

Fact	Trend	Impact
political and economical instability	less investments in new housing units	---
Financing is hard to get	less "prestige projects", less large-scale developments	--
mergers & acquisitions	fight for market shares, pressure on prices	-
freezing of innovation	stagnation in technical development	-
wages rise on a global level and remain stable in developed nations	need to increase efficiency with smart products and automatization	++
oversupply of housing units	more focus on renovation, ETICS	+++

5. Challenges to the Drymix Mortar Technology

5.2. Special Topic: Financial Crisis/Recession

Impact of Crisis/Recession onto Drymix Mortars by Application

Application	Impact
masonry mortars	---
screeds	---
renders and plasters	---
decorative and specialty renders	+
ALC mortars	---
Tile Adhesives, Grouts	-
ETICS	+++
SLU	+
Concrete Renovation	++

Final Remark



**3º CONGRESSO
PORTUGUÊS
DE ARGAMASSAS
DE CONSTRUÇÃO
LISBOA - 2010**