

# Update on world status and trends for critical raw materials

World Materials Forum  
June 29, 2017

Gilles Michel, CEO of Imerys



# Key figures



**€4.2 bn**  
Revenue



**€582 m**  
Current operating income



**14.0%**  
Operating margin



**16 000**  
Employees



**260**  
Operating sites



**50**  
Countries



**8**  
R&D centers



**#1 or #2**  
On most of our markets



**€6.0 bn**  
Market capitalization  
54% of capital held by GBL



FTSE4Good

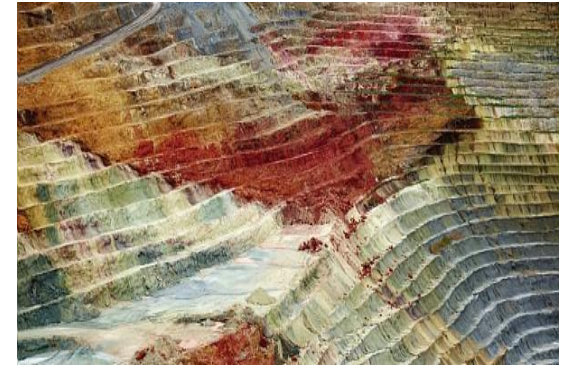


2015 Constituent  
MSCI Global  
Sustainability Indexes



# Imerys offers high value-added functional solutions...

- **Beneficiated mineral resources** (clay, bentonite, diatomite, feldspar, kaolin, mica, wollastonite, etc.)
- **Formulations** (ceramic bodies, continuous casting fluxes for steel, monolithic refractories, etc.)
- **Synthetic minerals** (synthetic graphite, zirconia, etc.)



## ■ from high quality assets:

- ◆ Unique portfolio of mineral resources
- ◆ Wide range of exclusive technologies and processes
- ◆ Materials science expertise
- ◆ Know how and customers' applications knowledge



# ...that contribute essential properties and performance to its industrial customers' products

**Whiteness and toughness** of sanitaryware, floor and wall tiles



**World leader** in ceramic bodies for sanitaryware

**Lifespan and fast charging** of electric vehicle lithium-ion batteries



**World leader** in conducting additives (graphite, carbon black)

**Gloss and opacity** for paint



**World leader** in wollastonite and talc for paint

**Thermal and mechanical resistance** of industrial abrasives



**World leader** in fused minerals for abrasives

**Resistance and lightness** of automotive plastic parts



**World leader** in talc-based performance additives for plastics

**Softness** of natural mineral powders



**World leader** in talc for health and beauty

**Watertightness and insulation** of roofs



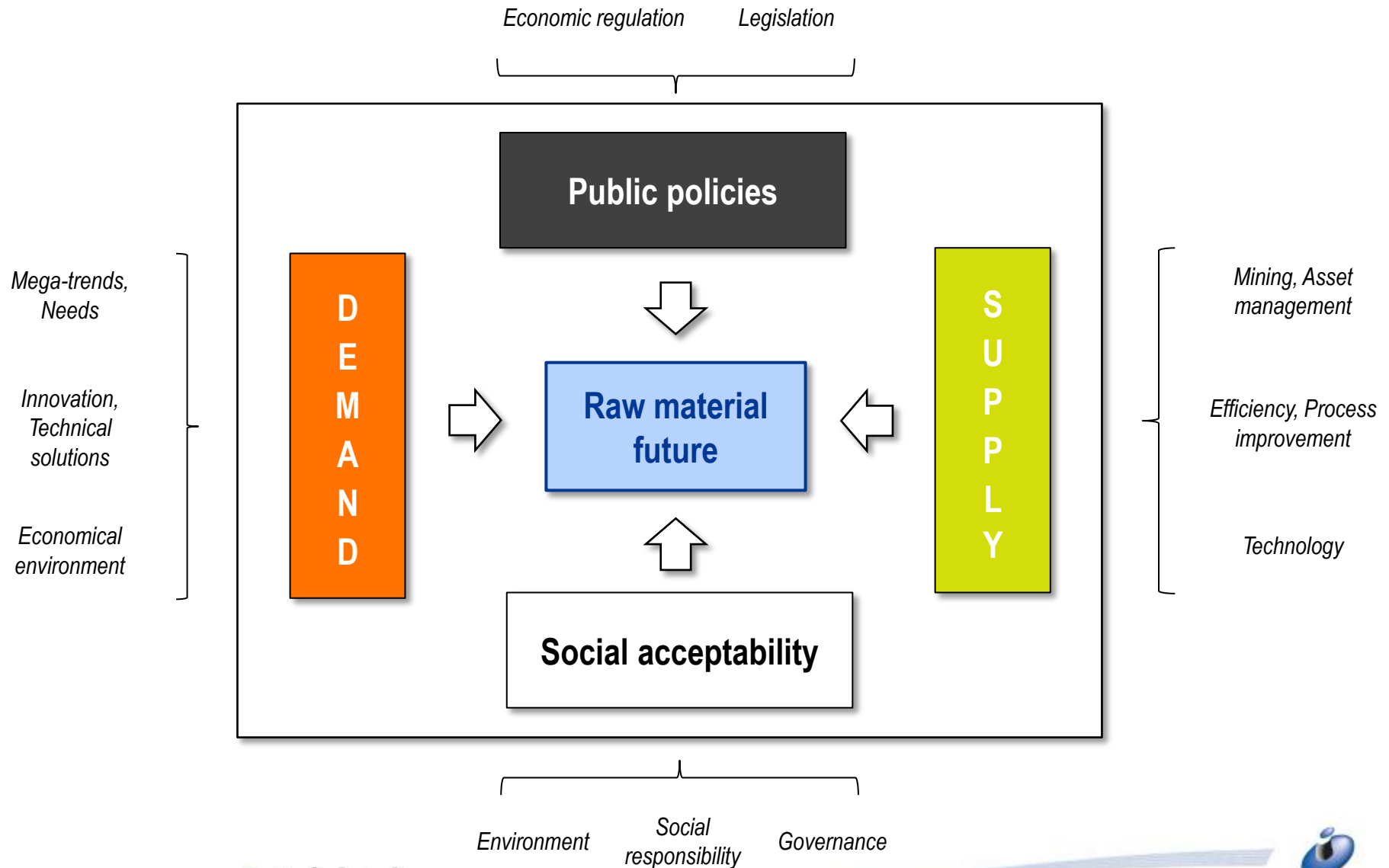
**French leader** in clay roof tiles

**Filtration** of liquids (food or blood plasma)

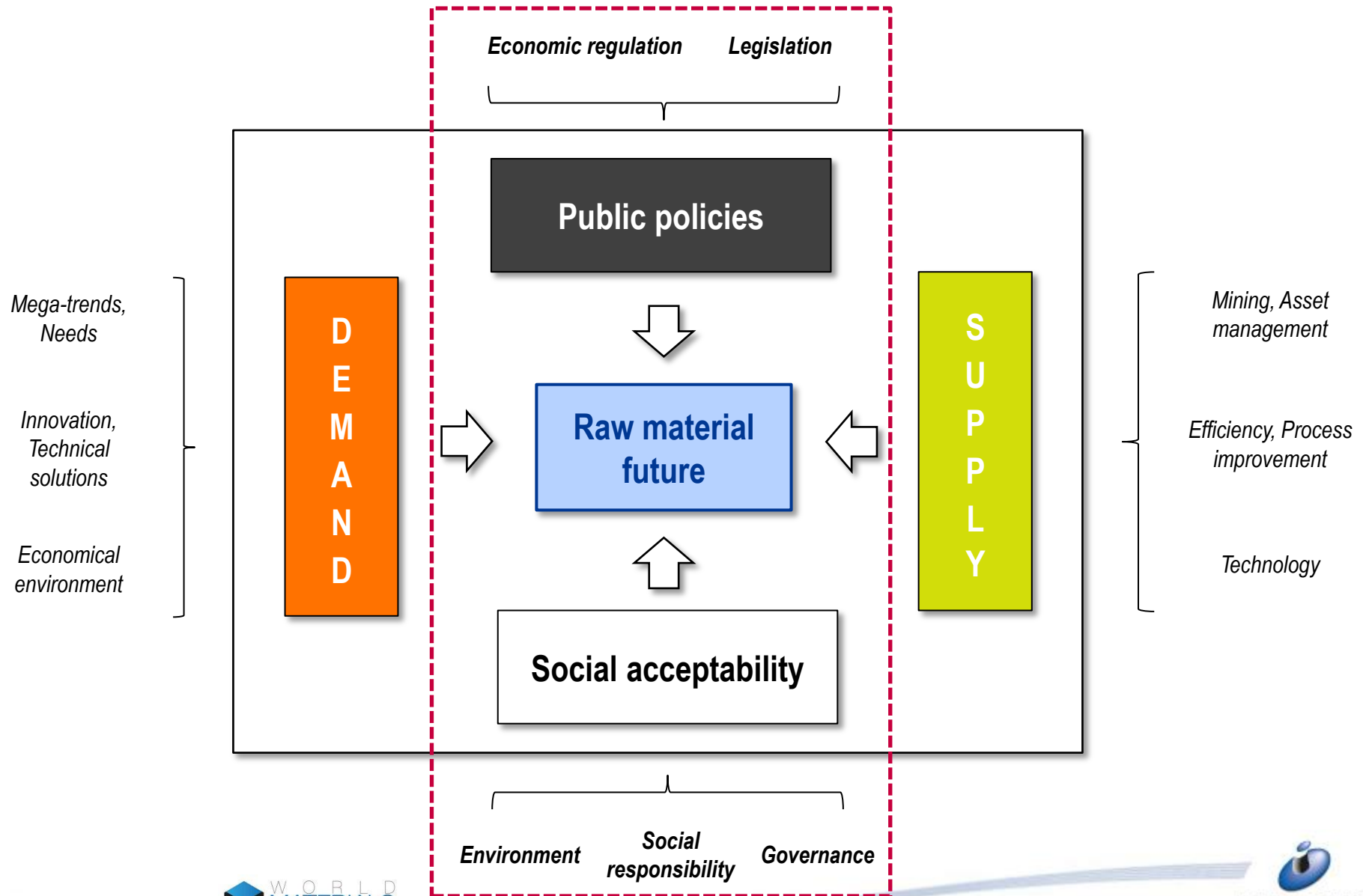


**World leader** in perlite and diatomite for filtration

# A number of factors will determine the criticality of raw materials



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# Ethics and Business Conduct

- Make sure our activities are carried out ethically and transparently
- Group compliance culture driven by Imerys Management team
- Risk Identification and Internal Controls mapping exercise at Group level every two years

## Business Code of Conduct and Ethics

- ◆ Anti-bribery and anti-corruption
- ◆ Anti-fraud
- ◆ Anti-trust and fair competition
- ◆ Transparency and integrity

The screenshot displays the Imerys website's 'Blue Book' section, which contains policies and procedures. The navigation menu includes Corporate Governance, Strategy & Development, Finance, Human Resources, Legal, Industrial Management, Research & Technology, Sustainable Development, Sales & Purchasing, and Information Systems. The main content area is titled 'CORPORATE GOVERNANCE' and features a sub-section for 'Ethics and Values'. Below this, the 'ETHICS AND VALUES' section highlights the 'CODE OF BUSINESS CONDUCT AND ETHICS' (2015.03.15), with a reference to CG.001 and version 7. A brief description states that the code summarizes the long-standing principles that Imerys expects people and entities associated with Imerys to follow. A 'Code of Ethics.pdf' link is provided, along with a row of international flags representing global applicability.

# Express social responsibility through community initiatives

## Driving improvement of living conditions and reducing environmental footprint

Low cost filter cartridge for household water treatment in rural India



## Enhancing the economic dynamism of communities by encouraging entrepreneurship

Implementation of a microcredit program in Brazil to help entrepreneurs starting their own small businesses



## Extending the life of mining sites with responsible rehabilitation and long term economic benefits

Former production plant in Bessens, France, now generating renewable energy through solar panels



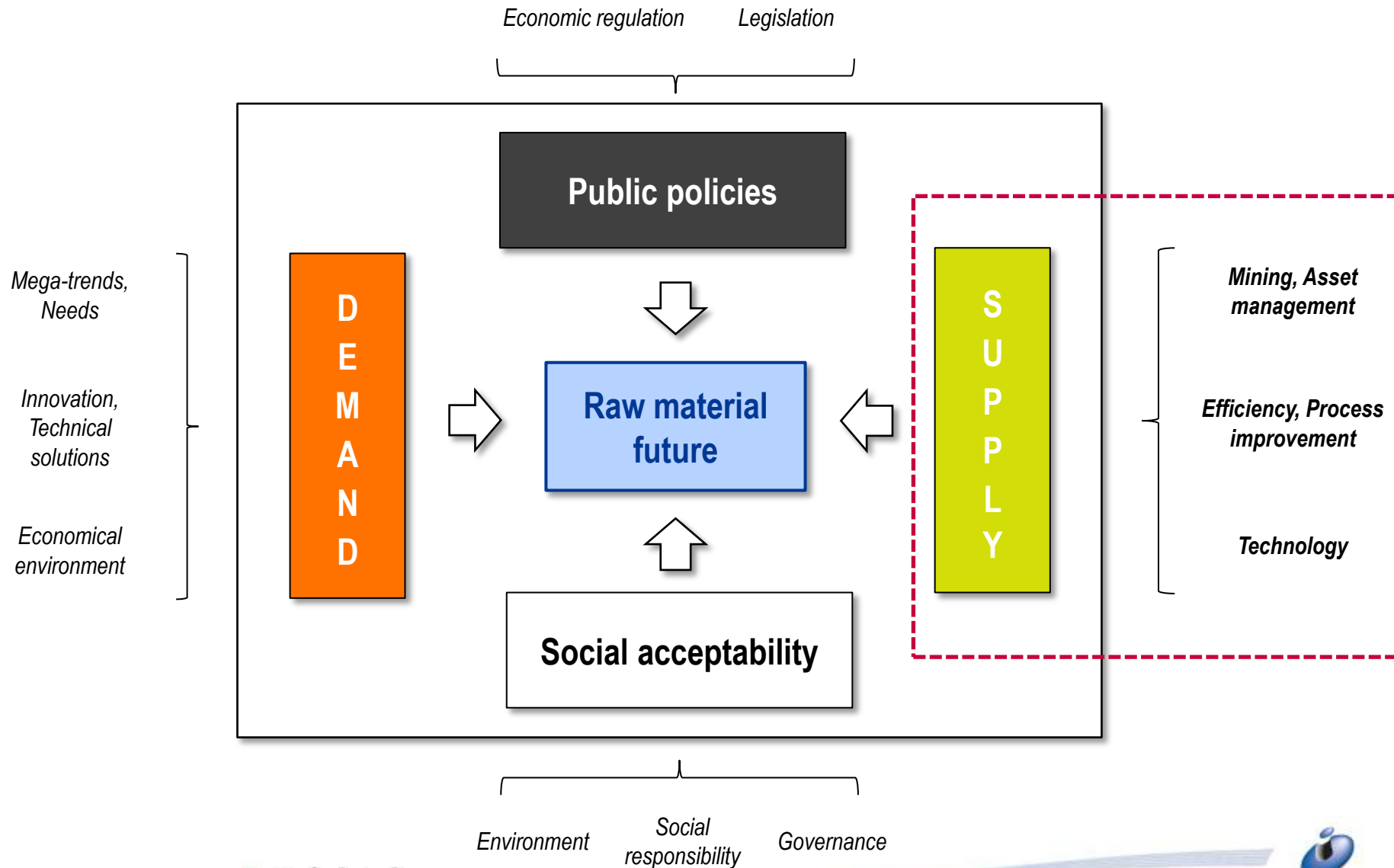
## Focusing on educational programs and duplicating best practices to help local communities

Collaboration on educational projects has begun in Brazil, China, India, South Africa, as well as Europe and the United States





# A number of factors will determine the criticality of raw materials



# Resources optimization through asset management, technology...

## Asset management / Good practices

- Geology & mine Planning



- New mining opening



Natural graphite in Namibia

## Technology for process improvement

- New process for higher quality talc
- Access to new markets
- Extend reserves by recycling mine tailings



Talc mine in Vermont

# ... And continuous improvement



## Operational excellence program

- Standardized methodologies to create a common industrial culture
- Commitment to continuous improvement
- Share good practices
- Build a skills' network

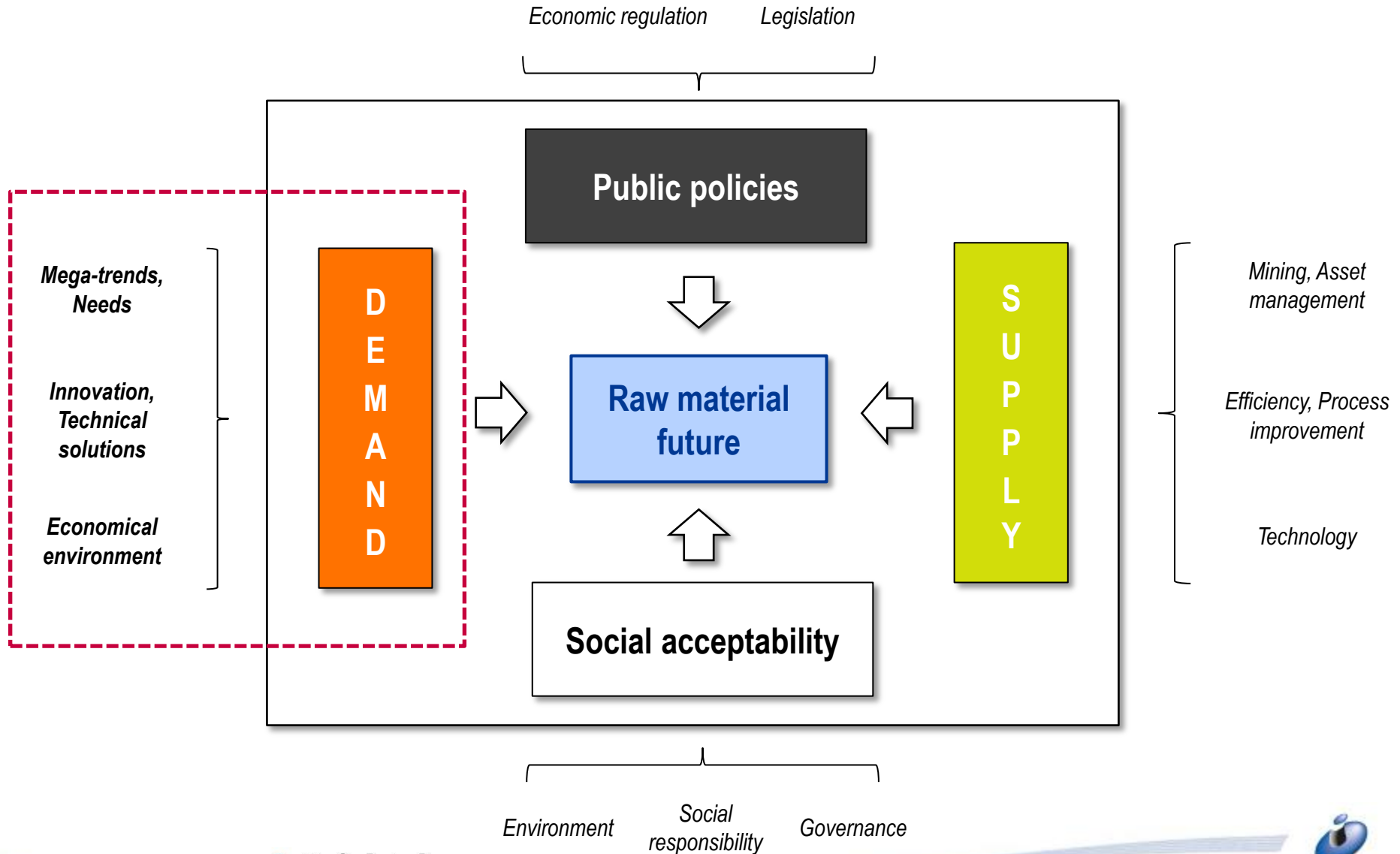


**Mining  
Efficiency**



**Mines and Plants that are competitive, because they are efficient, safe, clean, sustainable and respectful of the environment**

# A number of factors will determine the criticality of raw materials



# Macro-trends offer significant long-term growth opportunities

## MACRO-TRENDS

**Sustainability**

Green mobility

Alternative sourcing / recycling

Emission reduction

Resource scarcity

**Health, wellness  
and lifestyle**

Electrification / electronics

New consumption habits

Digitalization

Biotech / natural extraction

**Demography and  
urbanization**

Growing population

Efficient construction techniques

Green mobility

Safer environment



Filtration & environment solutions



High performance plastics



Sustainable packaging



Safer, cheaper, functionalized coating



More efficient construction techniques



Pharma & Personal care



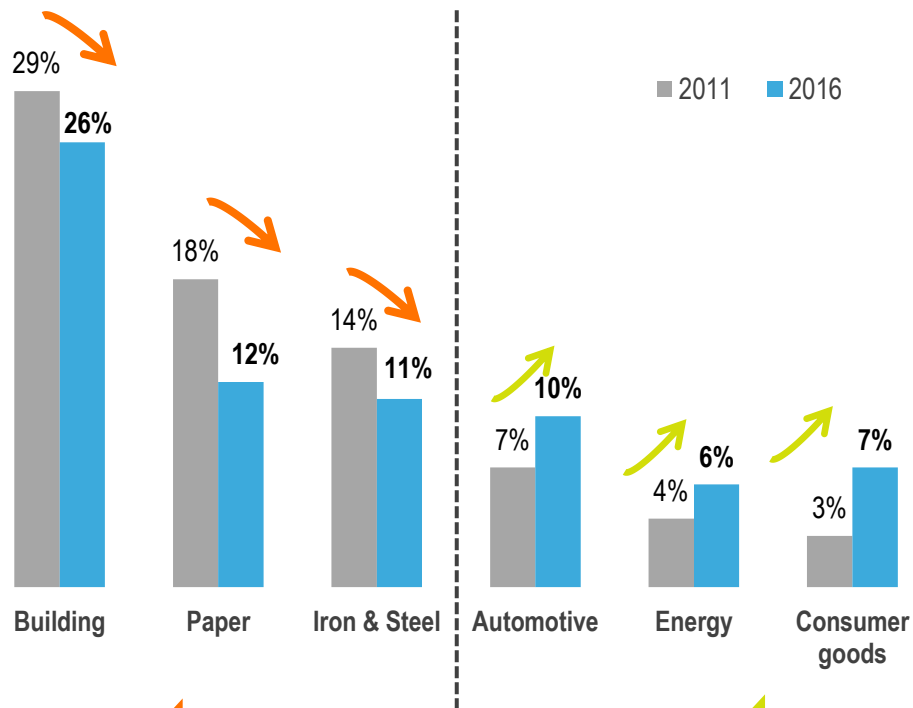
Agriculture & Animal feed



Mobile energy

# Innovation is a key lever to meet growing needs

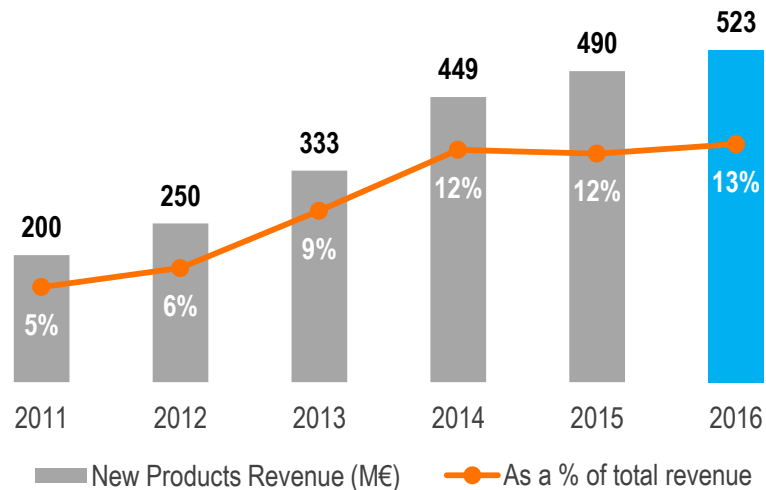
## End-markets sales 2011 vs. 2016



Mature markets with lower growth potential

Markets with higher growth potential

## Internal growth fueled by Innovation efforts



**Examples**

Plastics & polymers	Energy	Abrasives	Health & Beauty
Filtration	Paints & Coatings	Refractories & foundry	Others

R&D spend = €70 m in 2016  
1.7% of revenue

# Agenda of the Plenary Session 1 – Update on world status and trends for critical raw materials

- David TRAFFORD - *CEO CRU Consulting (UK)*
  - ◆ *Political mapping for critical resources*
  - ◆ *“Deep dive” on supply/demand & recycling trends for cobalt, lithium and nickel*
  
- Franck BEKEART - *Senior Partner McKinsey (Belgium)*
  - ◆ *Technology mapping for critical resources*
  - ◆ *“Deep dive” on supply/demand & recycling trends for iron and copper*
  
- Pierre TOULHOAT - *CEO BRGM (France)*
  - ◆ *Finance mapping for critical resources*
  - ◆ *“Deep dive” on supply/demand & recycling trends for zinc, natural graphite and rare earth*
  
- Robert FRIEDLAND - *Chairman Ivanhoe Mining (Canada) - Co Chair*
  - ◆ *Conclusion*

# Discussion

