

Project risk management

A pragmatic approach

Peter Dols / December 4, 2007

ECRI meeting, Haarlem

- Founded in 1902 as Dutch State Mines
- 22,500 employees (NL 7000; CN 3500)
- 8.4 billion Euro net sales
- DSM values: 3P policy: people, planet, profit
- Investment 500 MEUR/a
- Committed to harmonious change

DSM is everywhere...

帝斯曼无处不在...

DSM Dyneema produces Dyneema®, a lightweight, super strong high performance polyethylene fiber. Dyneema® is an important component in ropes, cables and nets in the fishing, shipping and offshore industries.

DSM Nutritional Products produces vitamins and UV filters for use in the personal care industry.

DSM Coating Resins produces synthetic coating resins for use in the marine industry.

DSM Fibre Intermediates produces caprolactam as a raw material for Nylon-6, which is used in textiles and acrylonitrile, which is a raw material for acrylic fibers.

DSM Engineering Plastics produces insulator materials for LV switchgear and ITE components, lighting fittings and armatures, motor, wire and cable, enclosure housings and electrical equipment.

DSM Nutritional Products produces vitamins, carotenoids, enzymes, amino acids and other ingredients for use in the animal feed and pet food industries.

PeptoPro®, a sports recovery ingredient, a product of DSM Food Specialties, differs from other sports and energy drinks in that it enables faster replenishment of muscle energy stores.

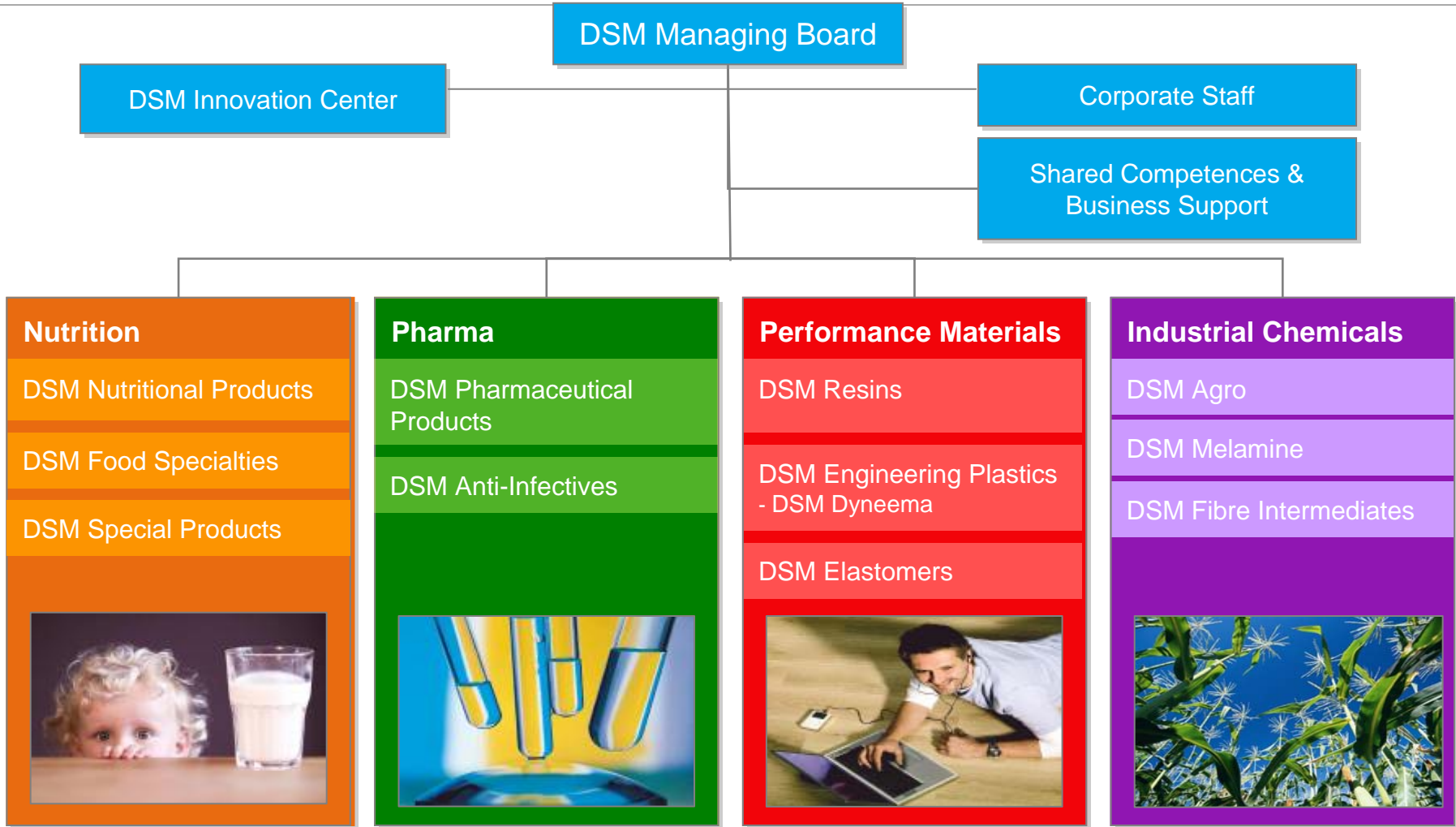
DSM Melamine produces melamine, which is mainly applied in adhesives and impregnating resins for wood-based panels used in the construction industry.

DSM Fine Chemicals products are used in coatings, resins, dyes, pigments, polymers and plastics all around the world, both as base products and as additives that give the end products special qualities, such as strength, UV resistance and elasticity.

DSM NeoResins produces extremely durable resins specially designed for the marine industry.

DSM Composite Resins produces unsaturated polyester resins, gel coats, wraps and binders and polymeric plasticizers for use in glass reinforced plastics applications in the marine industry.

DSM Organizational Chart



China Manufacturing Support Center

Controlled or uncontrolled risk?

5



China Manufacturing Support Center

Unlimited. **DSM**

- Seveso Italy
- Bhopal India
- Exxon Valdez USA
- Barings Bank UK
- Enron/WorldCom USA
- AHOLD NL
- Parmalat Italy

NEWS/COMPANIES | 5

Internal Report Says Enron Overstated Profit by \$1 Billion

Former Auditor Derides Findings as 'Self-Serving'

A WALL STREET JOURNAL EUROPE ROUNDUP

WASHINGTON — Enron Corp. inflated its profit by nearly \$1 billion (€1.16 billion) and ten employees raked in millions of dol-

Ahold Reveals Irregularities In Accounts, Ousts Officials

Supermarket Operator Says U.S. Foodservice Division Overstated '01, '02 Income

Aggressive Shopper

Ahold's sales here climbed, aided by \$19 billion in acquisitions between 1995 and 2002, but the company is left with €1.2 billion of debt.

Royal Ahold NV's net sales, in billions of euros

Year	Net Sales (billions of euros)
1995	15
1996	18
1997	22
1998	28
1999	35
2000	45
2001	55
2002	58

World's largest supermarket groups 2002 sales, in billions of dollars

Company	2002 Sales (billions of dollars)
We-Mart	\$217.1
Carrefour	\$57.7
Ahold	\$54.5
Hugobon	\$50.1
Metro	\$46.3
Aldi's	\$37.9

Source: Royal Ahold NV, IGD



China Manufacturing Support Center

Unlimited. **DSM**

Major changes in business, assets and governance:

- Acquisitions (Gist Brocades, Catalytica, Roche Vitamins)
- Sale of Petrochemical and Natural Gas interests; more to follow.....
- Enforcement of Business Controls, SHE and Compliance
- Emphasis on profitability and innovation

Corporate requirement (2004):

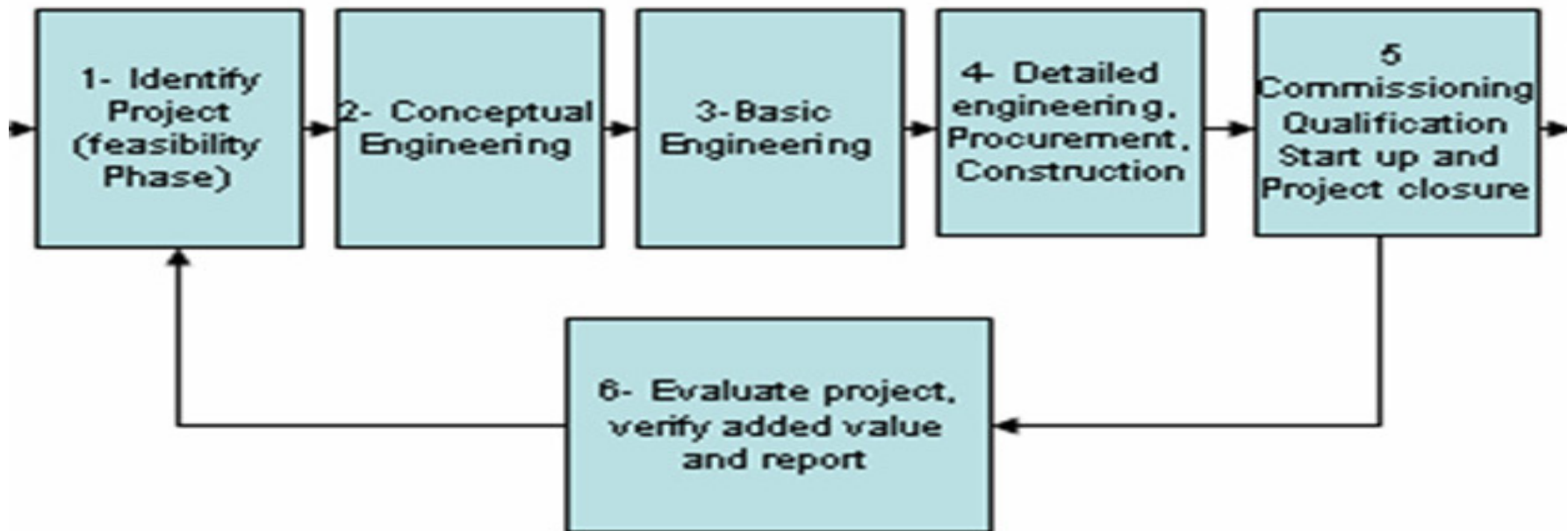
- Risk management system at each Unit: systematic identification and control of business risks
- A management process integrated in our normal business
- No guts no glory

Audit findings:

- No proper Business Risk Assessment at start of project, leading to rework
 - Changes in project environment go unnoticed due to strong internal focus of project team
 - Contractor performance.....
-
- We know our risks without going through the exercise!!!

- Cost overrun 30 %
- Mechanical Completion: 20 months late
- Design production level: 2 years after MC

- DSM work processes for project execution:
- Phasing of projects:



- Minimum 1 RA per phase is mandatory

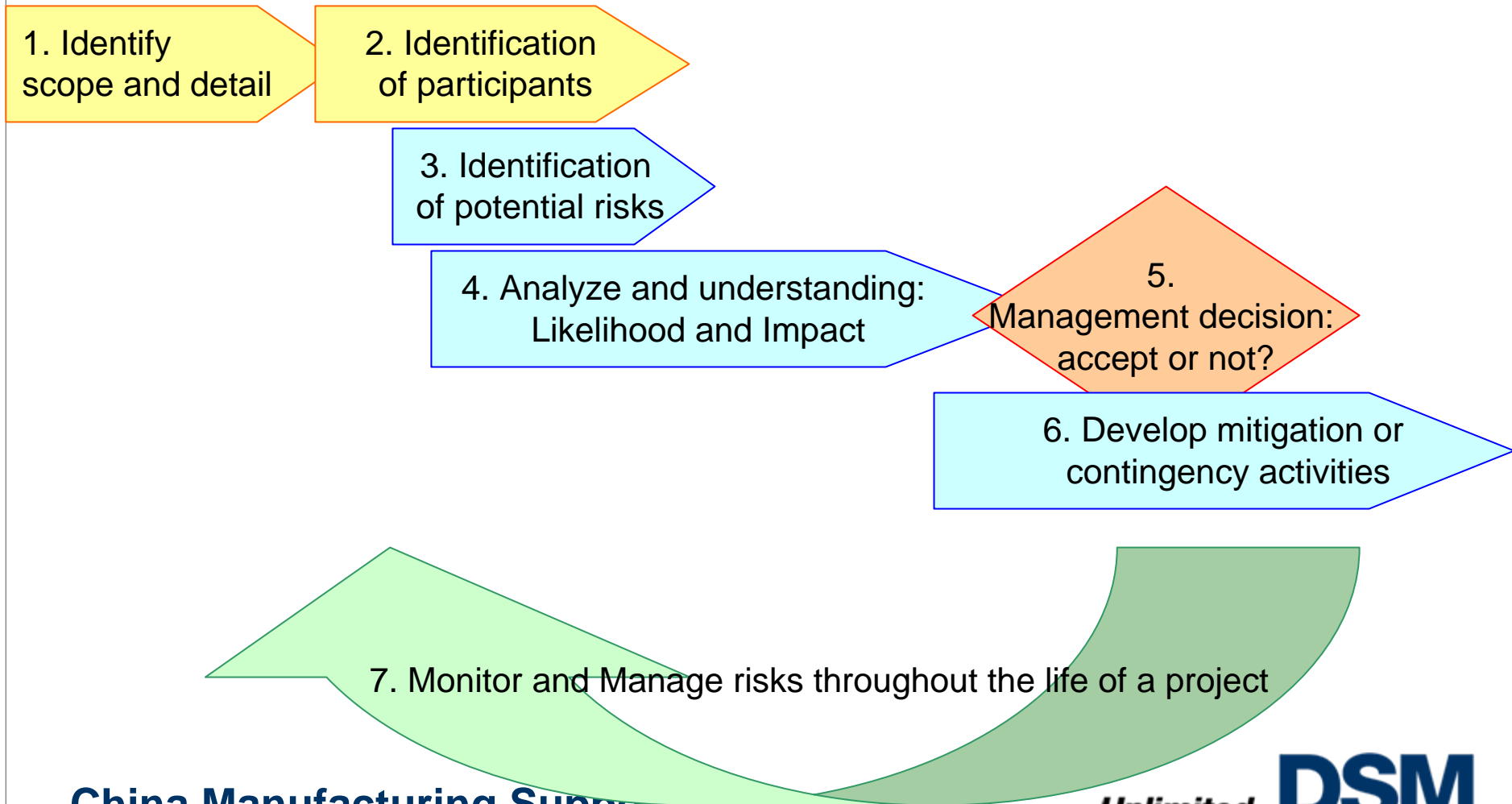
Aim:

Managing exposure to risks throughout the life of a project and beyond



- Enhanced confidence by all stakeholders
- Improved project focus and level of scrutiny of all activities and deliverables
- Improved levels of communication and interaction by all project participants
- Reduced probability of budget and/or schedule overruns
- Reduced probability of project scope change/growth
- Identify/remove potential negative impacts on SHE
- Better attainment of operational and production goals
- Etc.

Risk Management process



1. Identify scope and detail
2. Assemble multidisciplinary group, some (project) experts, 1 or 2 non related, 1 facilitator
3. Submit 10 highest risks per person
4. Facilitator clusters and feeds back

- SHE
- Scope
- People
- Schedule
- Costs
- Quality
- Intellectual property
- More

Sub categories as needed

1. Identify scope and detail
2. Assemble multidisciplinary group, some (project) experts, 1 or 2 non related, 1 facilitator
3. Submit 10 highest risks per person
4. Facilitator clusters and feeds back
5. Submit individual likelihood and impact

Criteria	Likelihood: once per ...	Impact (Euro million)
Very High	< 1 month	> 5
High	1 – 6 month	1 – 5
Medium	0,5 – 1 year	0,5 – 1
Low	1 – 5 year	0,1 – 0,5
Very Low	> 5 year	< 0,1

- Figures are just a guideline
- Not a mathematical exercise
- Use gut feeling

([map](#))

1. Identify scope and detail
2. Assemble multidisciplinary group, some (project) experts, 1 or 2 non related, 1 facilitator
3. Submit 10 highest risks per person
4. Facilitator clusters and feeds back
5. Submit individual likelihood and impact
6. Group discussion and alignment ([map](#))
7. Accept risk or determine mitigating action
8. Discuss and agree in project Steering Committee

EPC phase of a plant in China

(risk matrix)



- High turnover of personnel
- Culture and language barriers
- Planning vs improvisation
- New regulations
- Authorities stick to old regulations
- Authority opinions in addition to regulations
- Different perception of SHE risks







The DSM (project) risk management approach

- Is semi-quantitative
- Is a team building activity
- The process is as important as the result
- Is a powerful management tool for the Steering Committee
- Fits with DSM (Dutch) culture of pragmatism