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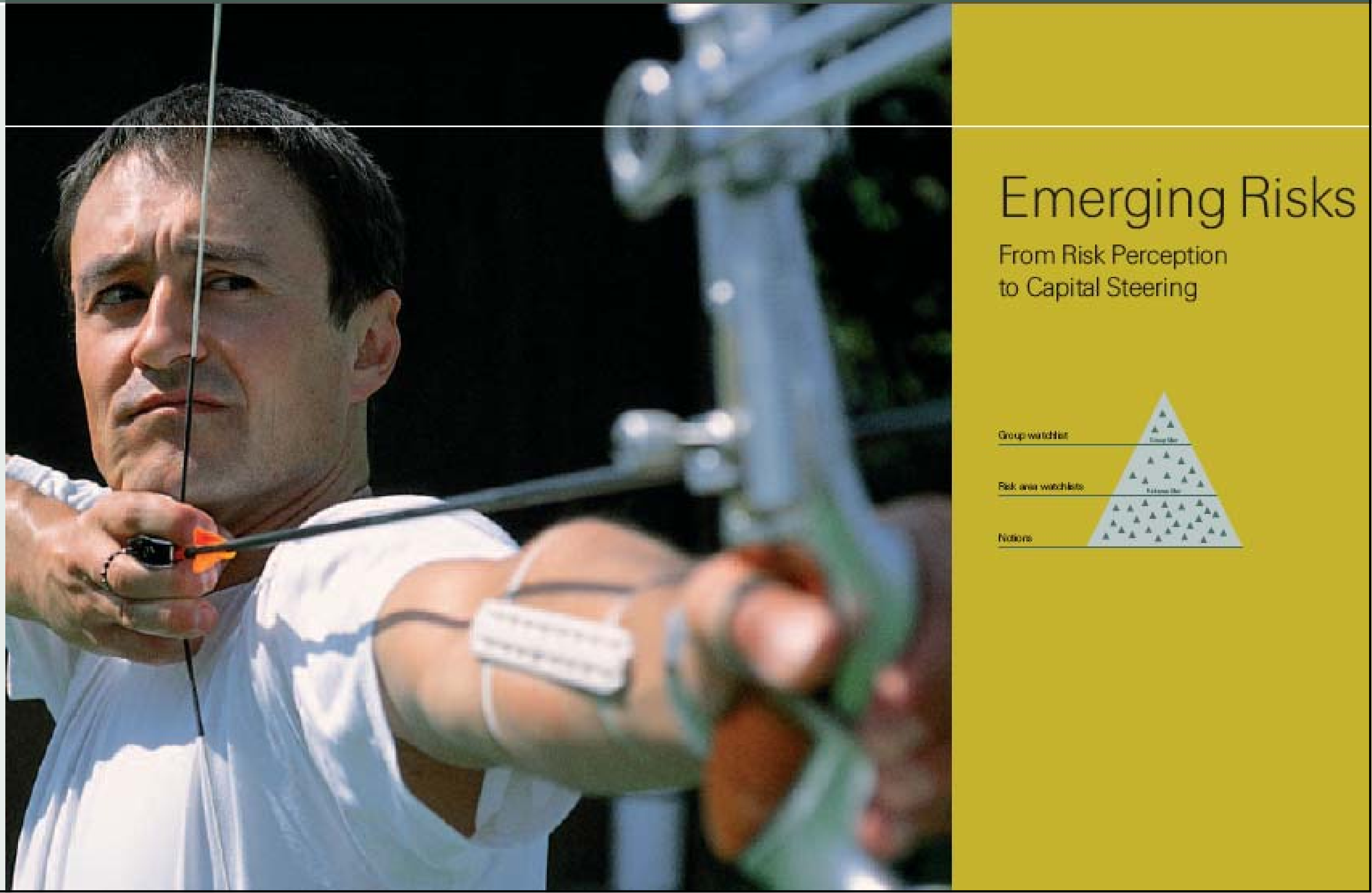
Emerging Risks at Swiss Re



Introduction to emerging risks
Characteristics

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Definition

Emerging risks are newly developing or changing risks which are difficult to quantify and may have a major impact on re-/insurers current or future P&L and balance sheet.

Introduction to emerging risks
Drivers and rationale

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Rationale

- Risks today are primarily assessed reactively – faster pace of change requires a more anticipatory approach to managing risks
- The goal is to translate risks associated with high uncertainty into quantifiable risks, which allows to manage them appropriately

100 years of ‘early warnings’: The case of asbestos

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1906	French factory report of 50 deaths in female asbestos textile workers and recommendation of controls.
1918	US insurers refuse cover to asbestos workers due to assumptions about injurious conditions in the industry.
1930	UK Merewether Report cites 66% of long-term workers in Rochdale factory with asbestosis.
1931	UK Asbestos Regulations specify dust control in manu-facturing only and compensation for asbestosis, but this is poorly implemented.
1950s	First worker's comp asbestos claims filed
1960s	First GL cases filed and first payments made First claims paid by Swiss Re, Dec 1966
2006	US Insurance loss as of 2004: USD 55 bn * Total estimated future losses: USD 275 bn **

Source: David Gee and Morris Greenberg, “Asbestos: from ‘Magic’ to Malevolent Mineral”.

* according to AM Best

** according to Millimans

Conclusion

Asbestos exclusions were introduced in the US in 1918 – but somehow they got “lost” in the following years

Data on harmful health effects of asbestos were reported as early as 1898 , but the insurance industry did not integrate this knowledge into its risk management

Insurance view on risks

Swiss Re's Group emerging risk management process

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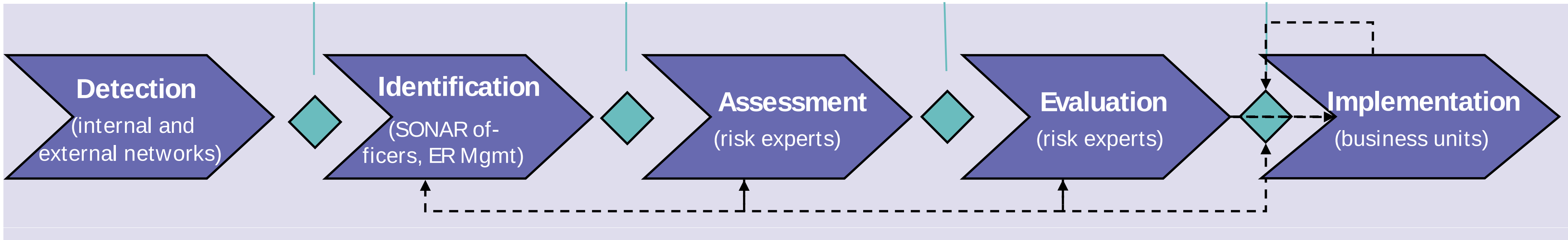
Identification — Assessment — Implement & Control



SONAR Satellite Watchlists	Group SONAR Watchlist	Report about underlying risk	Report about potential impact of ER on SR's business	Business measures/ progress report
Risk category view - emerging risk de-scription - pre-assessment	**Group view** - emerging risk description (Group view) - pre-assessment (Group view)	**Understanding the risk** - in depth risk analysis - technical / scientific report on specific risk	**Evaluation of impact on** - insurance risk - credit & financial market risk - operational risk	**Balance sheet protection** - risk communication - uw guidelines, contingency plans, .. **Product & service development**

* incl. monitoring & controlling

Why is Swiss Re interested in Emerging Risks?

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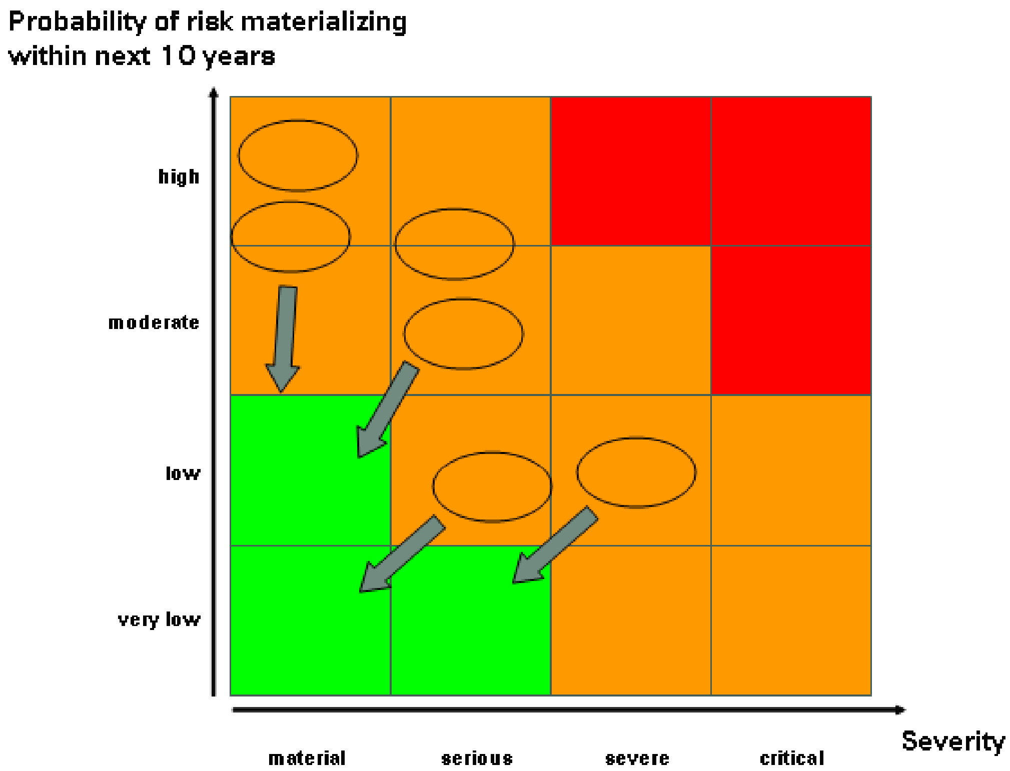
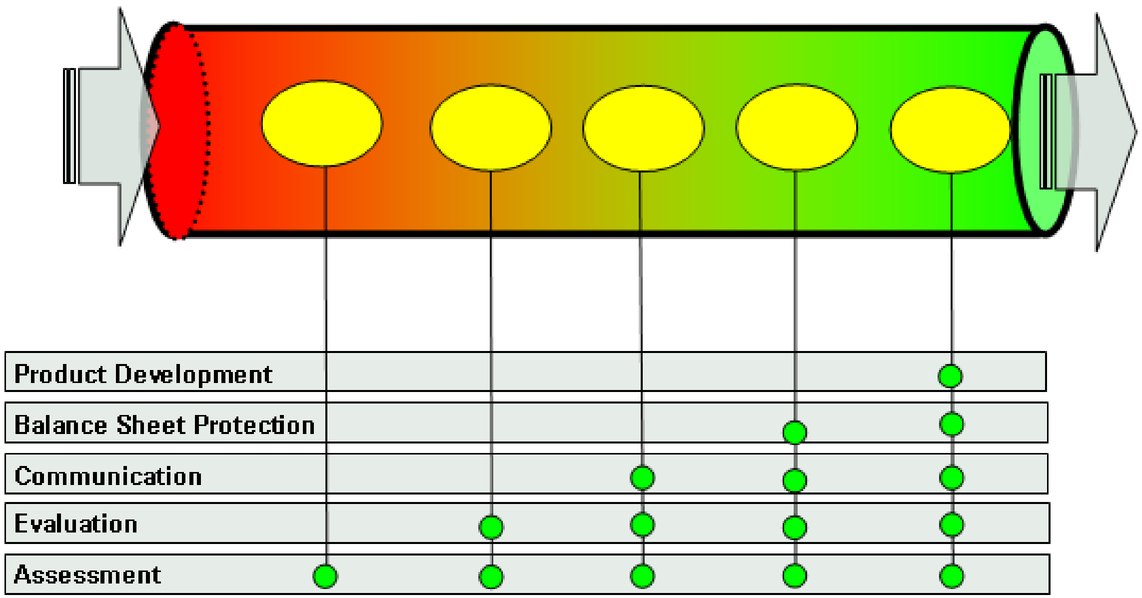
Risk landscape

Risk mitigation pipeline





think the unthinkable

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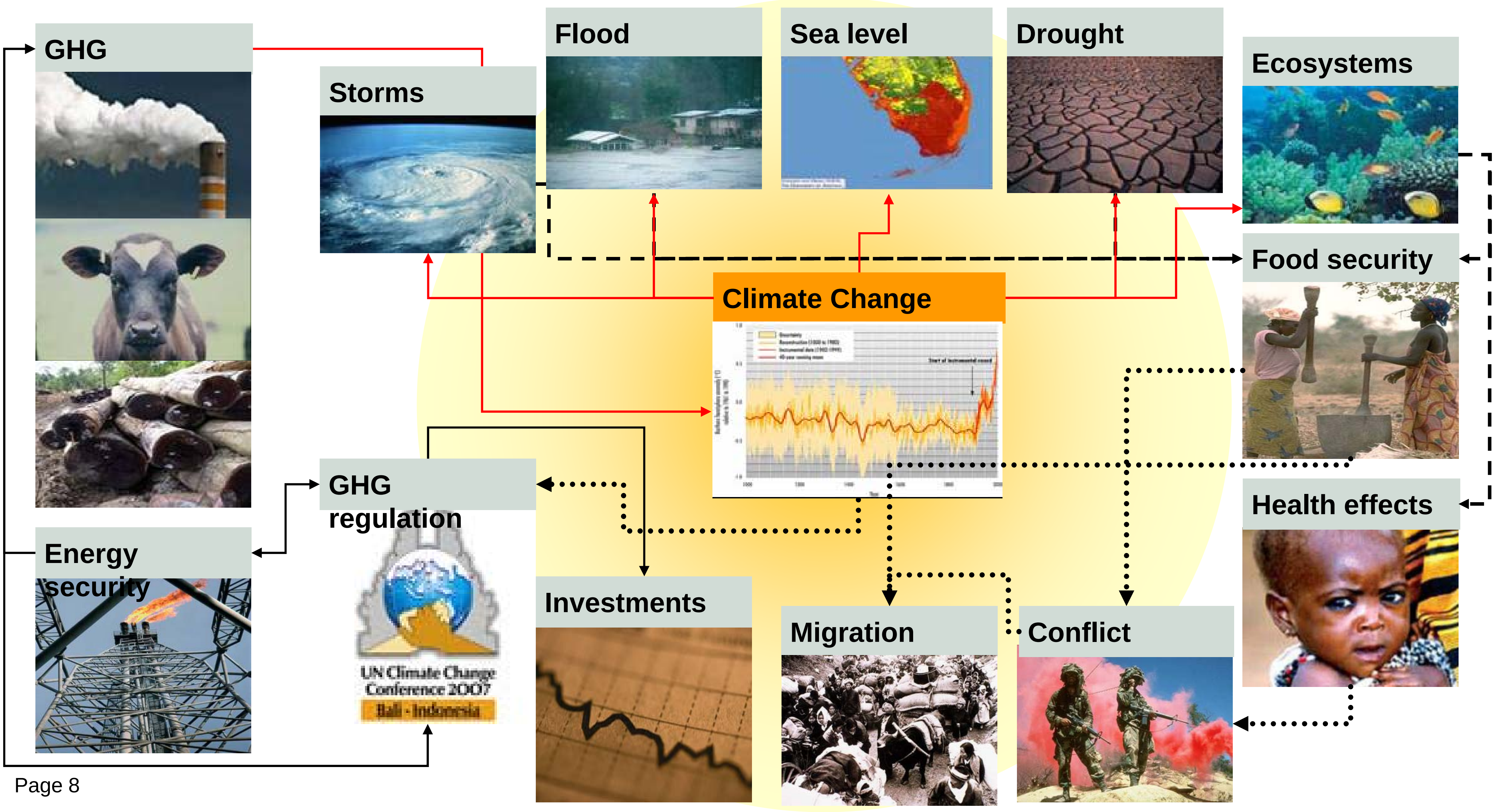
Risks have become increasingly inter-dependent

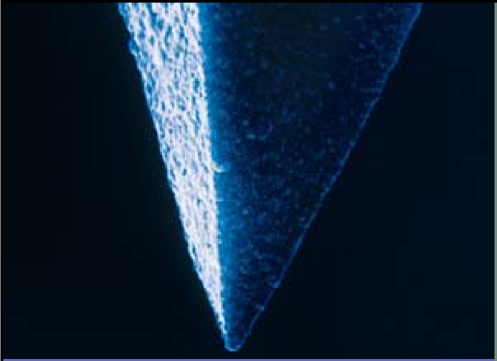


Composite materials – basics and applications

Composites in short:

- 4th major materials' class, besides the classic "Big 3": metals, ceramics & polymers
- Potential in properties' combination remains unequalled by any single material category

⇨ The sum is more than its parts!



Nanoparticles
Ubiquitous in industrial production

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Materials

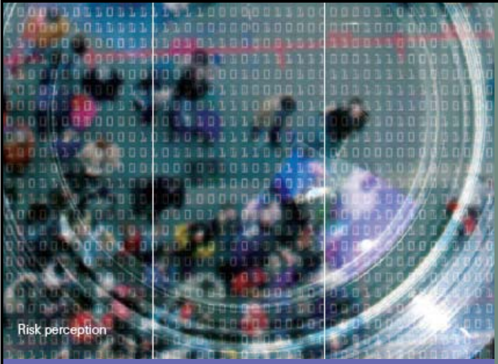

Pharmaceuticals


Sustainability


Electronics


Chemicals


Tools

RFID - Identification in a hospital: Possible fields of application

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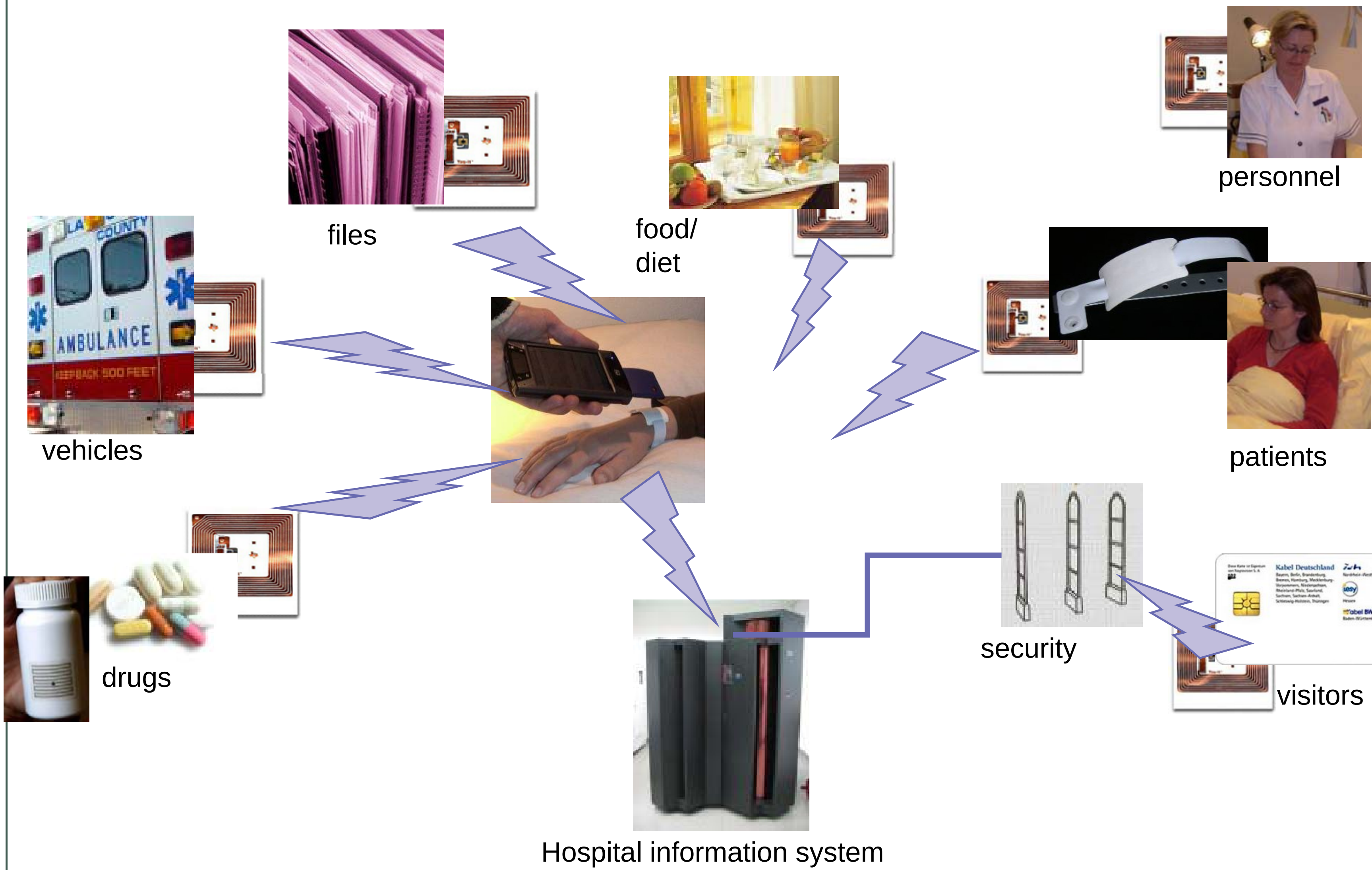

Characteristic areas of the risk landscape

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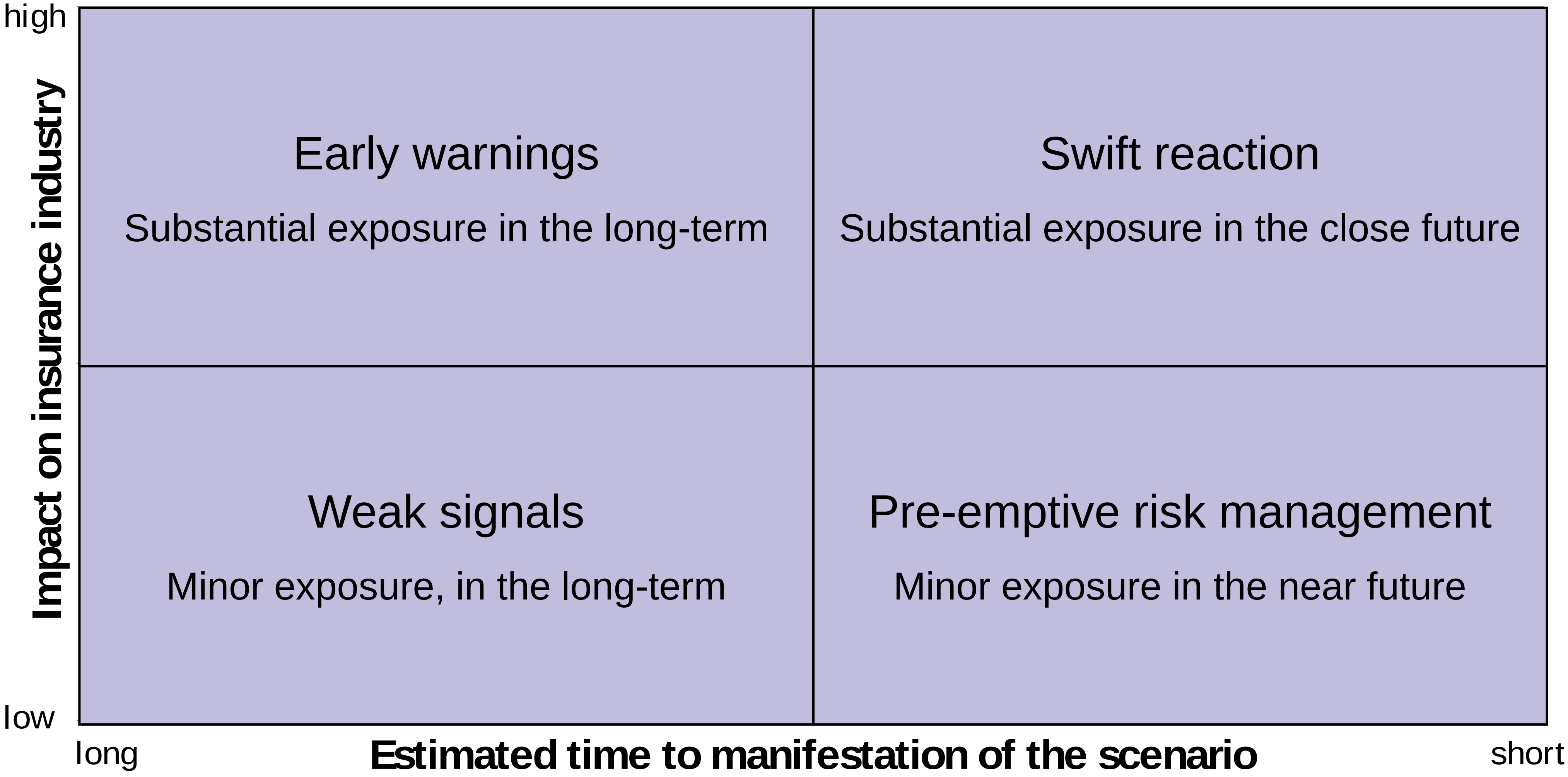
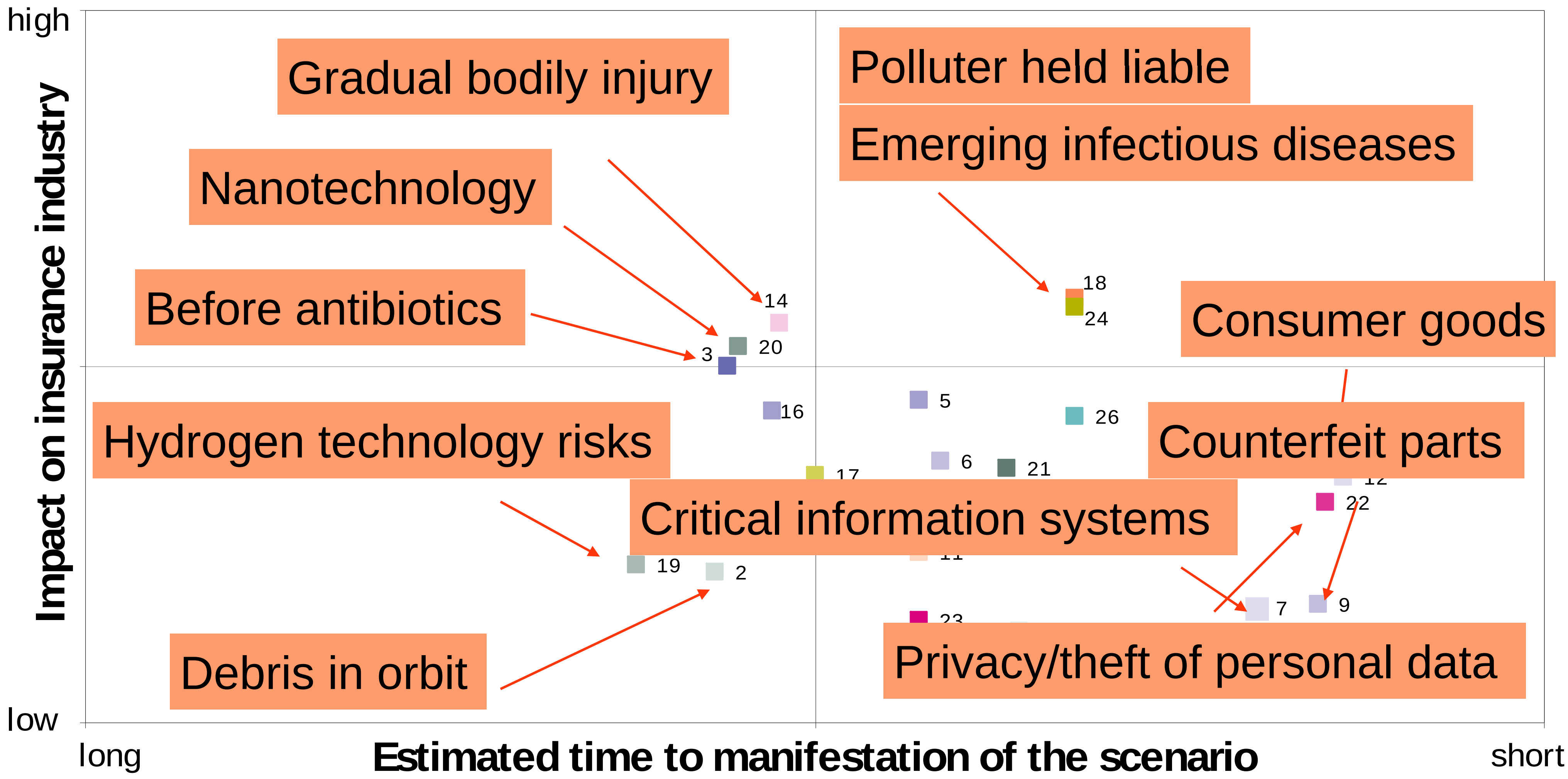


Results of trend scenario risk perception survey



Anticipation of new risks / risk of change

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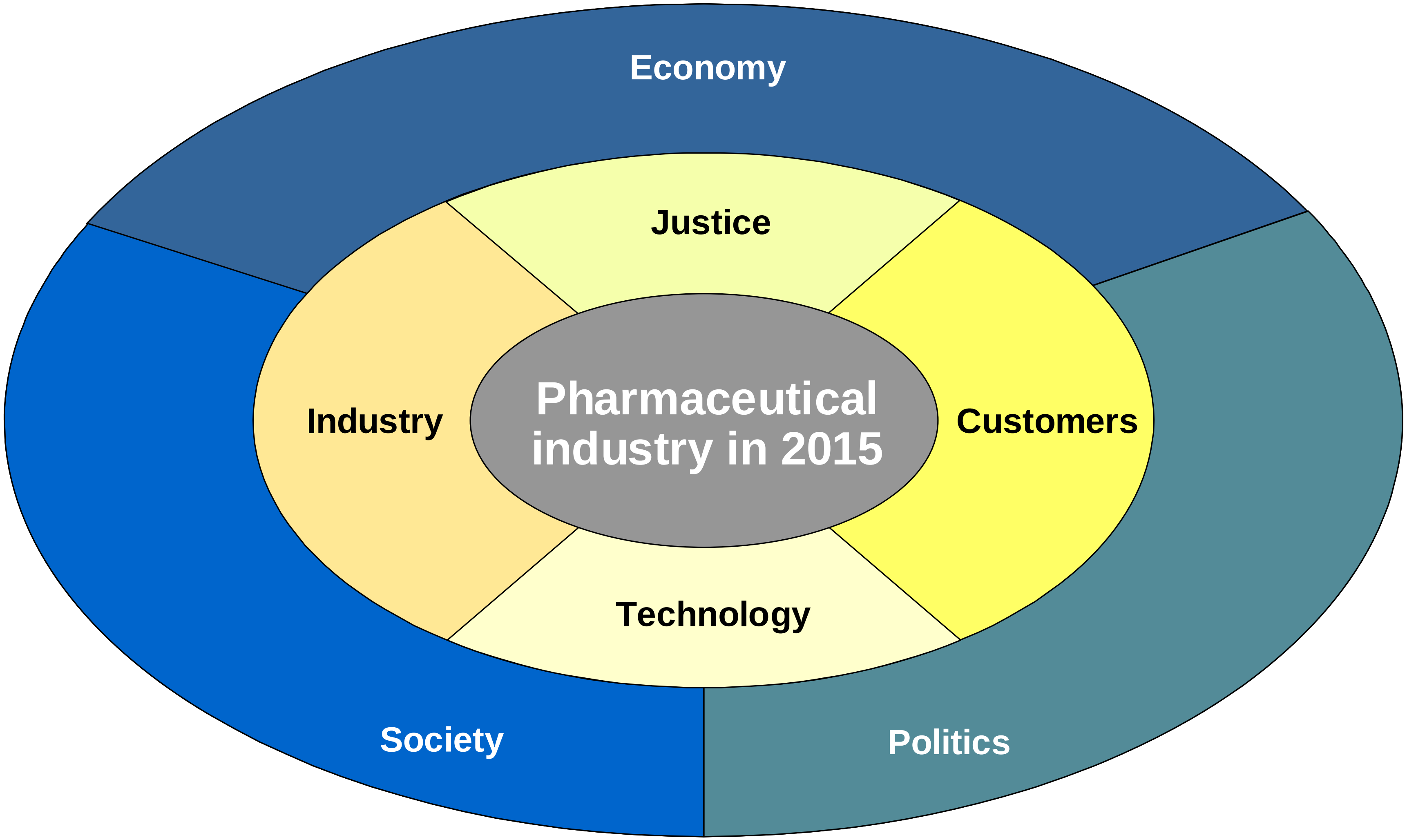

Towards
Integrative Risk Management

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Hazard	Vulnerability	Value distribution	Insurance conditions	Ptf management Capital allocation

Natural science

Engineering science

Market intelligence

Financial mathematics

Social and political sciences