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Governance of nanotechnologies Essential Elements

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LEADERS IN IDEAS AND SOLUTIONS

ROYAL SOCIETY OF CHEMISTRY

Toxicology Award Winner

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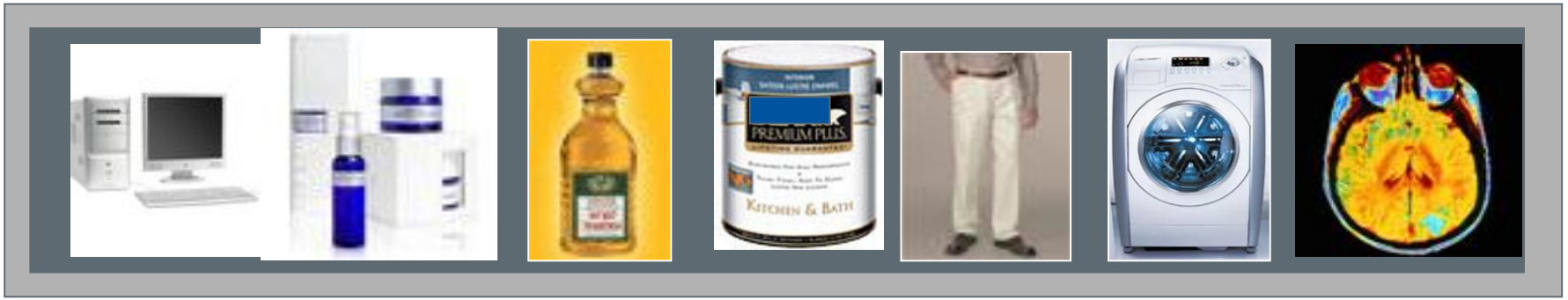
Requirements

Human Exposure

Incidental ↑ Purposeful



Incidental ↓ Purposeful

Environmental Exposure

Requirements

Risk Governance

- **Framework** for legal, regulatory and organisational determinants of risk management decisions
- Within the framework **tools** are required for risk management.
- A governance framework structures the situation and the options available to people (e.g. who is entitled to make a decision, who is responsible, liable etc.), while the tools help people to make good decisions.
- Required along the product value chain
- Informed – evidence based
- Proportionate – in order to allow safe development without preventing innovation

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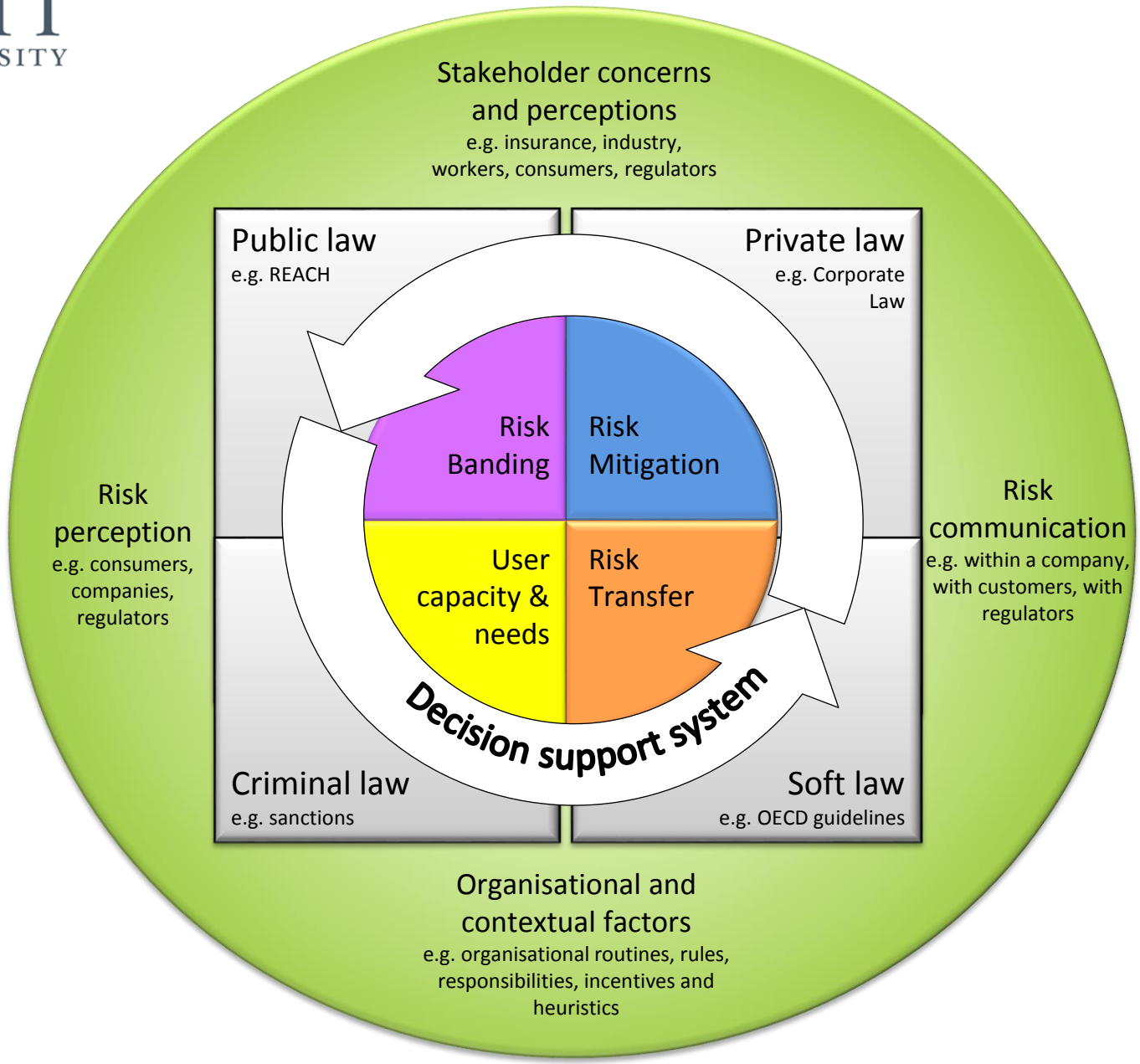

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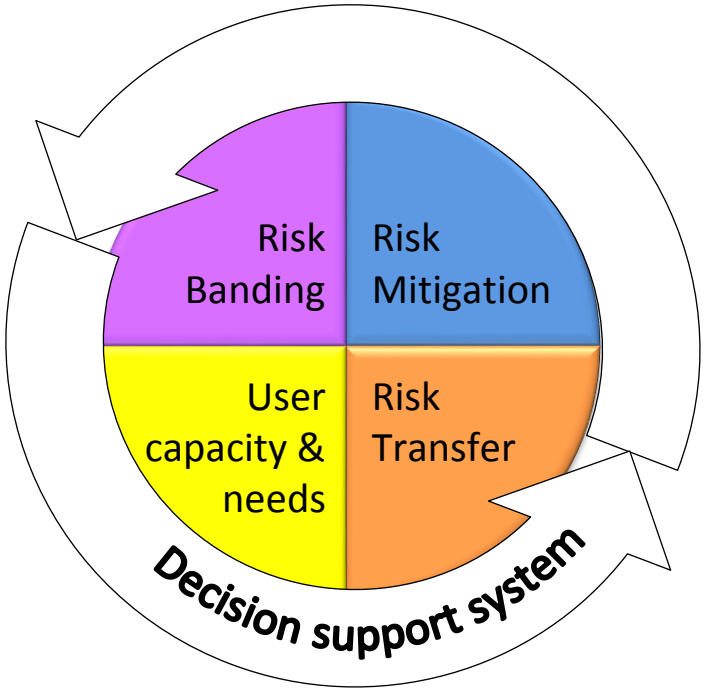
Tools for risk management



Decision Support System integrates:

User capacity and needs

- A series of questions that assess the requirements of the user
  - Occupational health manager vs factory floor worker

Risk Banding

- A tool to reduce testing requirements of hazard, exposure or characteristics.
- Allow comparison to materials of known hazard or risk
- Grouping, Read-Across, Classification

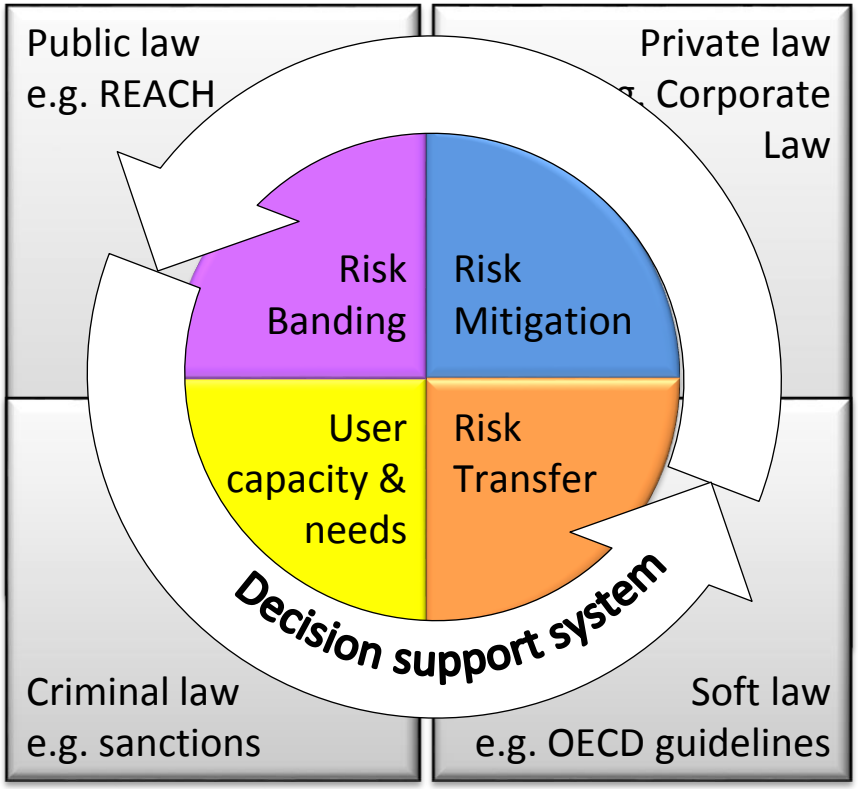
Risk Mitigation

- Identify alternative materials
- Safer-by-design approaches
- Personal Protective equipment
- Modifications of manufacturing or handling

Risk Transfer

- Insurance

Regulatory frameworks



The DSS and tools need to work within the context of:

- Public law e.g. regulatory frameworks such as REACH
- Soft law e.g. OECD guidelines
- Private law e.g. corporate law
- Criminal law e.g. sanctions

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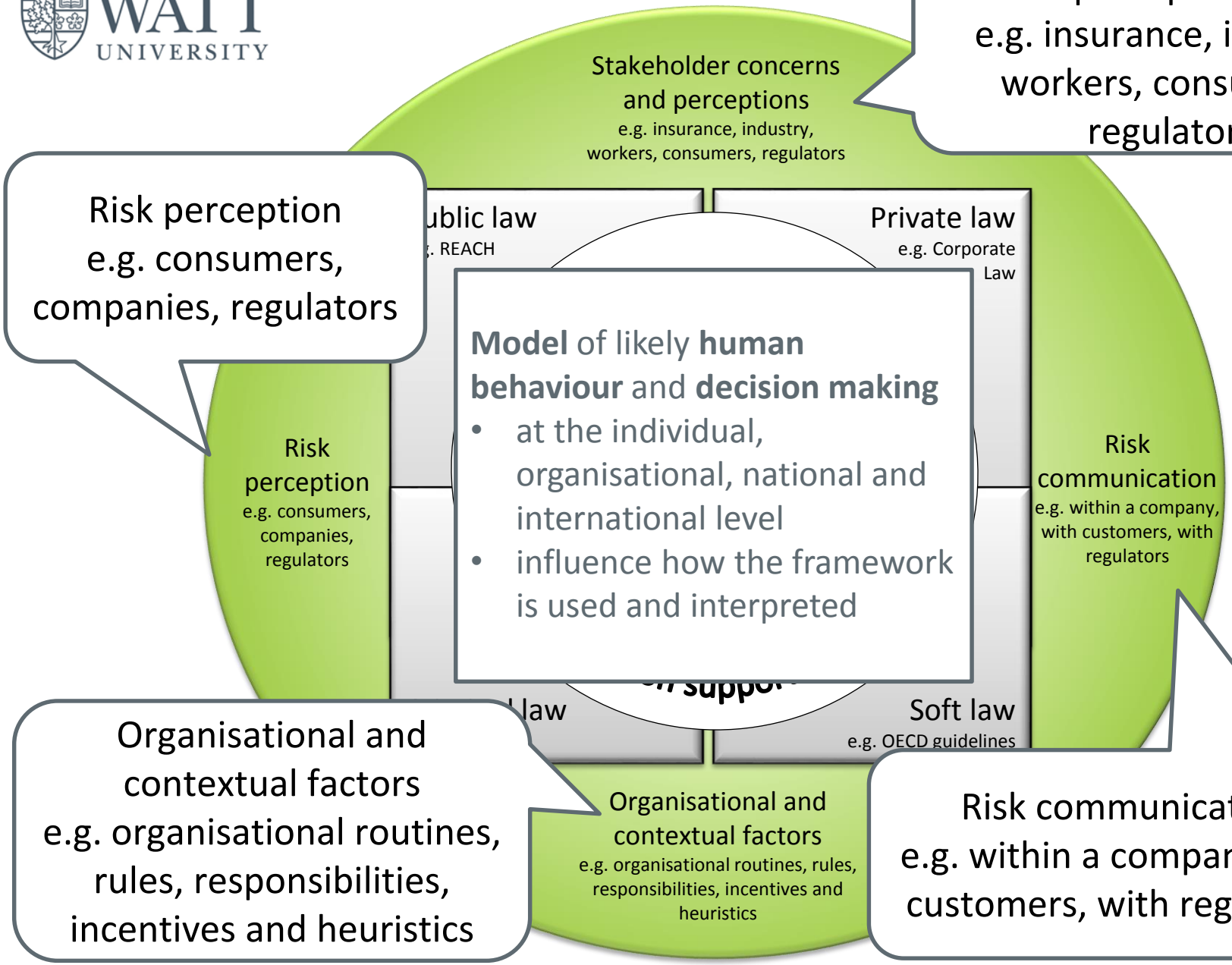
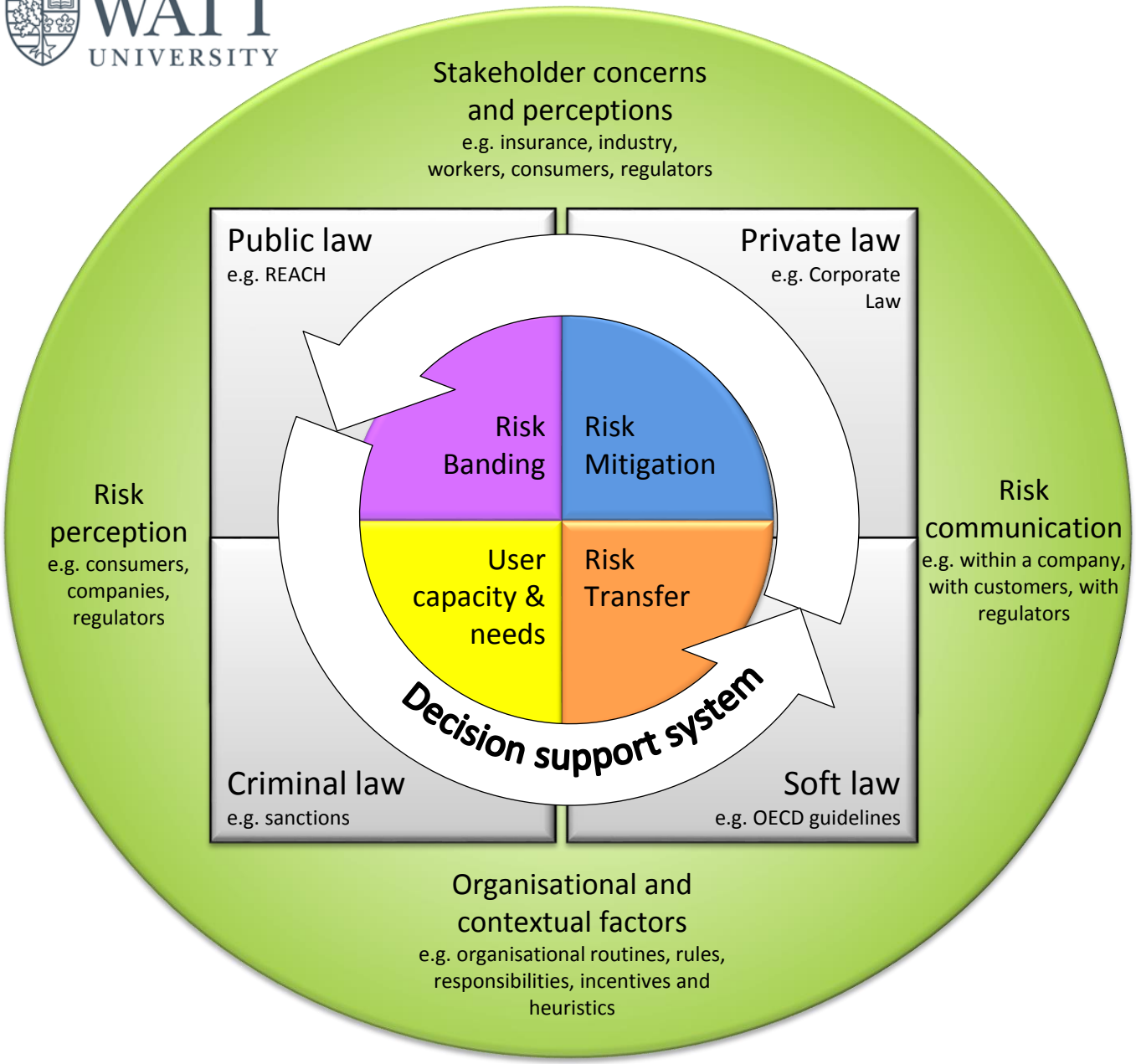


Governance framework



Systematically facilitate and incentivise good practice for different stakeholders

- industry,
- regulators,
- policy makers,
- insurers,
- general public

Acknowledgements

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