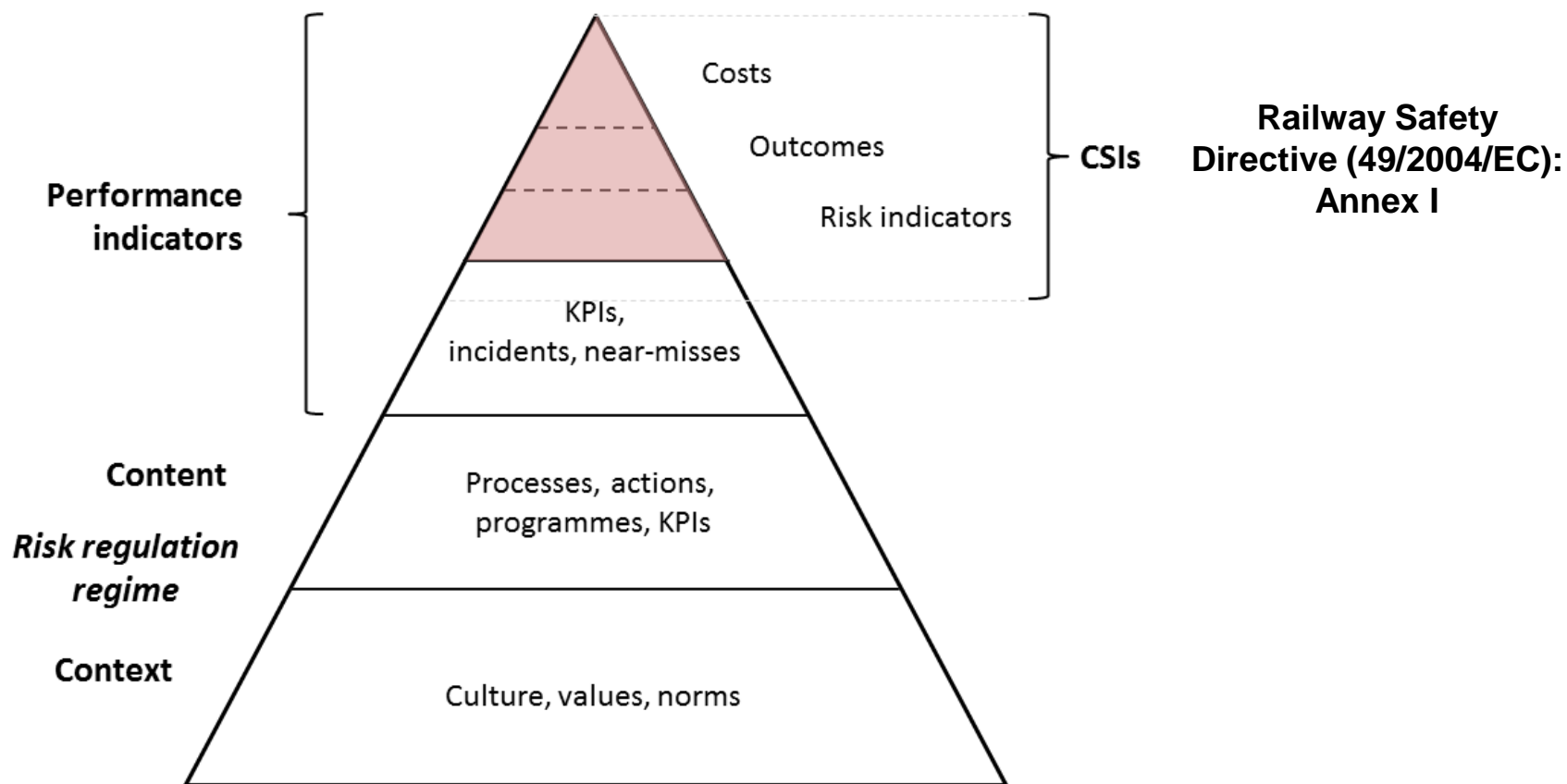




Safety Monitoring



The safety management pyramid



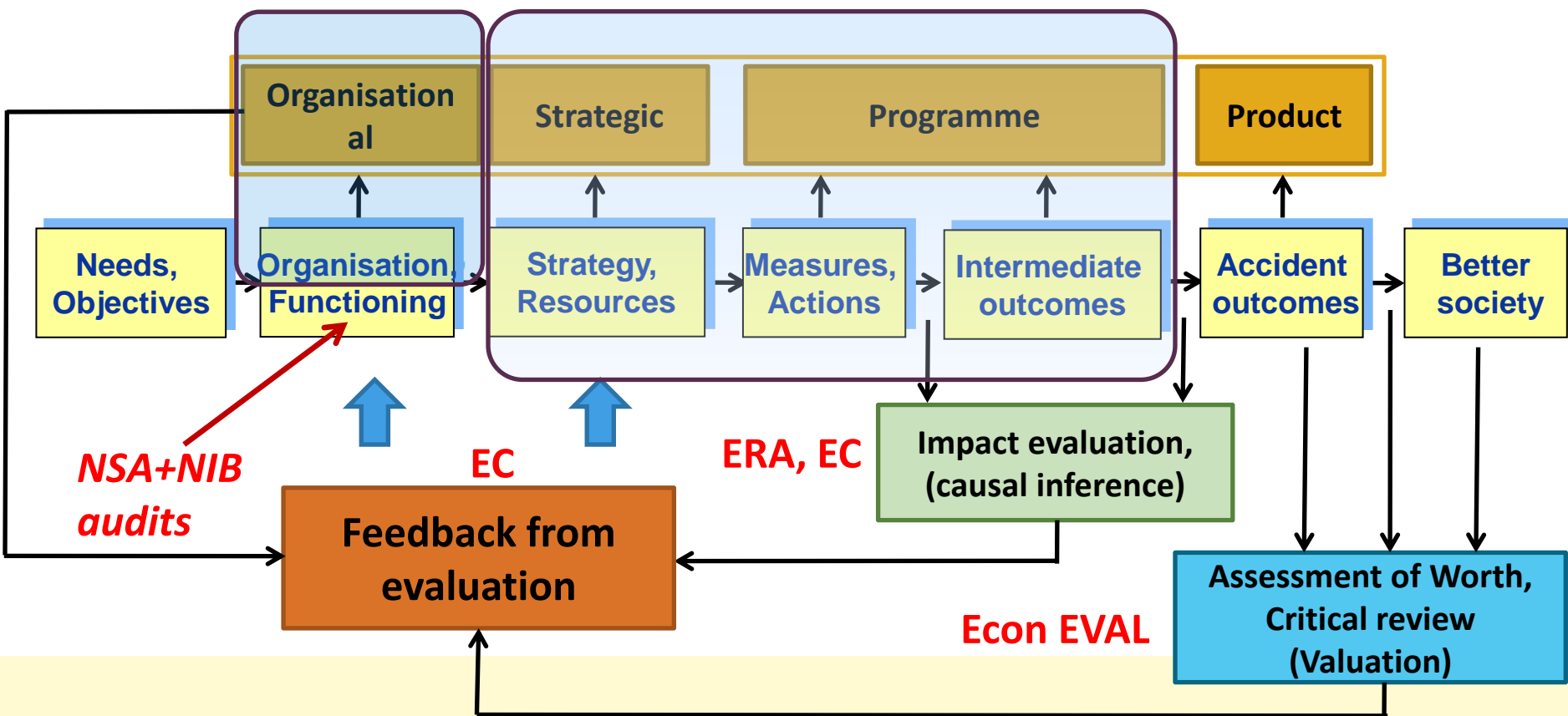


Uncovered areas

Process and performance benchmarking

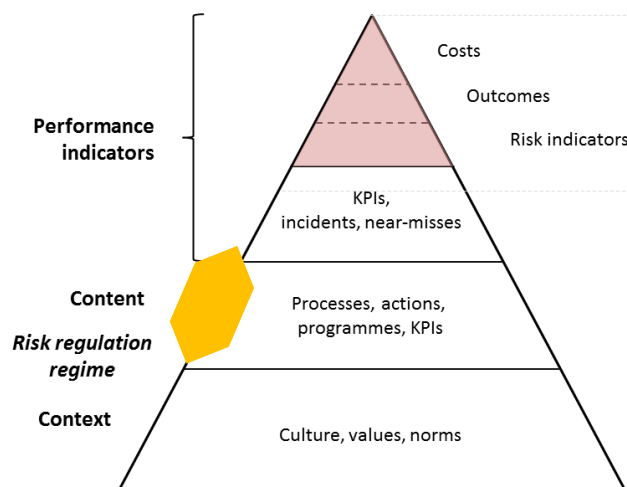
Rough ideas about <> terra incognita

CSIs CSTs)





Monitoring scope



ICAO Universal Safety Oversight Audit Programme – State level

Primary aviation legislation

the establishment of a civil aviation legislation that supports the State's civil aviation system and regulatory functions, in compliance with the Convention on International Civil Aviation (Chicago Convention)

Specific operating regulations

The establishment of aeronautical regulations (rules) addressing all aviation activities, and implementing applicable ICAO provisions and SARPs (Standards and Recommended Practices)

State system & safety oversight function

The establishment of a Civil Aviation Authority or Authorities with safety regulatory functions, objectives and safety policies, provided with sufficient financial resources and qualified staff

Technical personnel qualification & training

The establishment of minimum requirements for knowledge and experience of the technical personnel performing safety oversight functions and the provision of appropriate training to maintain and enhance their competency at the desired level

Guidance, tool and provision of safety-info

The provision of procedures and guidelines, adequate facilities and equipment, and safety critical information to the technical personnel to enable them to perform their safety oversight functions; this includes the provision of technical guidance to the aviation industry on the implementation of regulations and instructions

Licensing, certification, authorisation, approval

The implementation of systems to ensure that personnel and organisations performing an aviation activity meet the established requirements before they are allowed to exercise the privileges of a licence, certificate, authorisation and/or approval

Surveillance

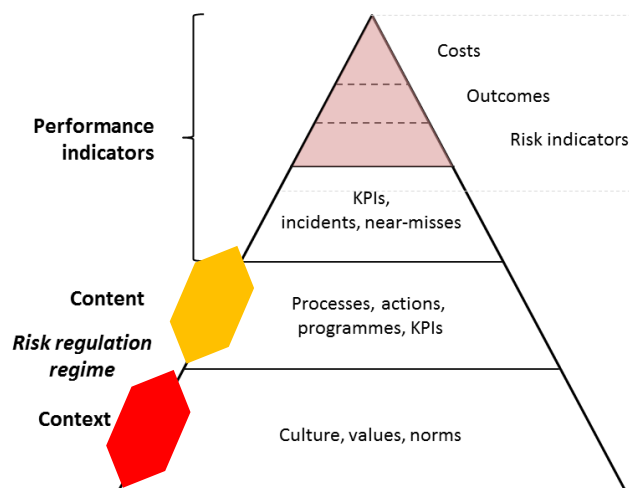
The implementation of a continuous surveillance programme consisting of inspections and audits to ensure that aviation licence, certificate, authorisation and/or approval holders continue to meet the established requirements and functions at the level of competency and safety required by the State

Resolution of safety concerns

The implementation of processes and procedures to resolve identified deficiencies impacting on aviation safety, which may have been residing in the system and have been detected by the regulatory authority or other appropriate bodies



Monitoring scope



(EU) 691/2010 – (EU) 1216/2011 EFFECTIVENESS OF SAFETY MANAGEMENT (SKPI) – State level

Safety policy & objectives

safety legislative framework

safety responsibilities/accountabilities

accident & incident investigation

enforcement policy

management of related interfaces

Safety risk management

requirements for SMS

agreement on safety performance

Safety assurance

safety oversight

data collection, analysis & exchange

data-driven targeting of oversight

Safety promotion

internal training, dissemination of info

external training, dissemination of info

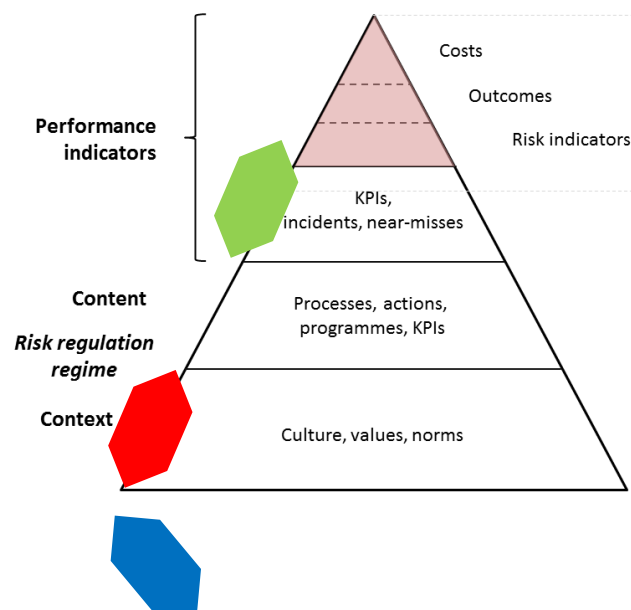
Safety culture

establishing/promoting safety culture

measuring/improving safety culture



Monitoring scope



(EU) 691/2010 – (EU) 1216/2011

Other KPI – State level

Severity classification

separation minima infringements

runway incursions

ATM-specific occurrences

Just culture

establishing/promoting just culture

Environment

environment indicator

Capacity

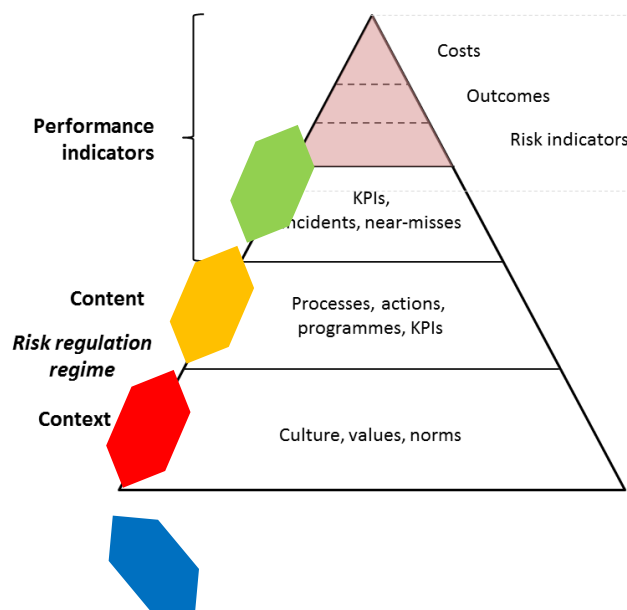
capacity indicator

Cost-efficiency

Cost-efficiency indicator



Monitoring scope



TRANPOSED TO RAILWAY SAFETY ...

CSI

Common Safety Indicators –extended to relevant precursors

Policy & objectives

MS railway safety policy and target setting

Safety regulation

transposition of Directives and subsequent EU legislation

National Rules covering open points and specific cases in TSIs and CSMs

Monitoring/development of safety regulatory framework

Set up for operating rules/ IM-RU arrangements

Certific./ authoris. system

Setting up of ECM certification scheme, system for approval of NOBOs/DEBOs/ISA

NSA organisation & performance

NSA establishment, powers, independence, resources

Competence requirements for NSA staff

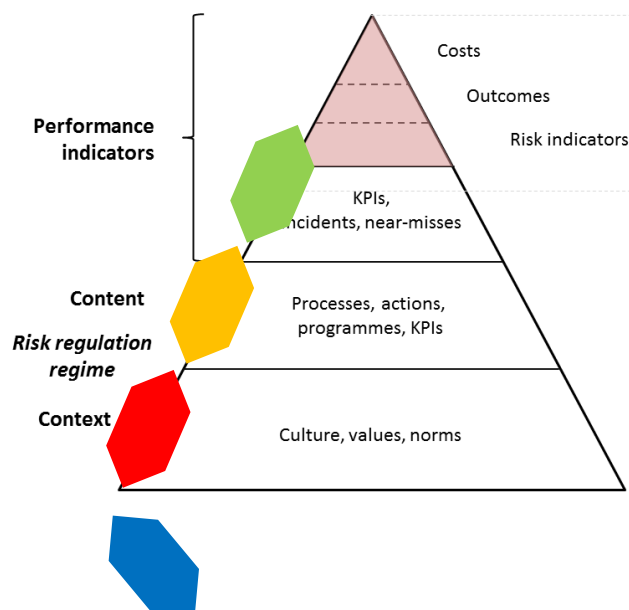
NSA processes: certification, supervision, APIS

Promoting (int./ext.) safety, dissemination of safety related information

Improving compliance with safety regulatory framework (incl. enforcement)



Monitoring scope



TRANPOSED TO RAILWAY SAFETY...

NIB organisation & performance

NIB establishment, powers, independence, resources

Competence requirements for NIB staff

NIB processes: accident investigation

Promoting (int./ext.) safety

Safety promotion

internal training, dissemination of info

external training, dissemination of info

Safety culture

establishing/promoting safety culture

measuring/improving safety culture

Just culture

establishing/promoting just culture

EU single railway area

Single safety certificate, ...

Interoperability, ERTMS deployment, ...

Capacity

High Speed rail network development, TEN-T core network, airport connections, ...

Environment

Freight shift from road to rail, ...



VISION FOR 2020 (or earlier?) *what would be the ideal situation*

- CSTs / KPIs / CSIs simple, transparent, going beyond safety
- CSIs at EU level simplified, some to be moved back to national level
- Single safety reporting (accidents+incidents) via ECCAIRS
- Use of other, complementary data collection/ monitoring techniques (self-evaluation, audits, ... ?)

INTERMEDIATE STEPS *what is possible without legislative changes*

- Self-evaluation (safety maturity, safety/just culture,)
- Assessment of IMs (what other levels to cover?)
- Promotion of precursors, ECCAIRs