



SMS Roadmaps and Safety Indicators

Can we build them without Safety Culture?

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“Few” challenges and paradigms

- Where are we with the today safety challenges
 - Three ages of Industrial Safety;
- Two views of Safety Management
 - From negative to positive safety;
- Reflections on Safety Indicators
 - Is there hope ?
- FABs , Multi-culturalism and CEOs.

Three ages of Industrial Safety

**THINGS CAN
GO WRONG**

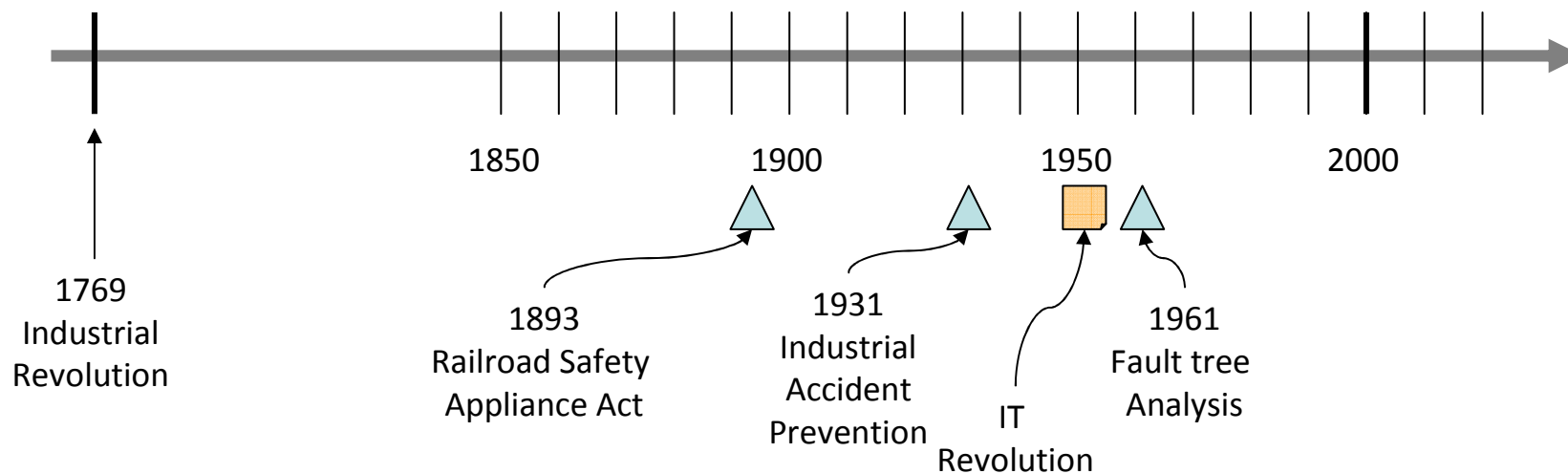


Hale & Hovden (1998)

**BECAUSE
TECHNOLOGY CAN FAILs**

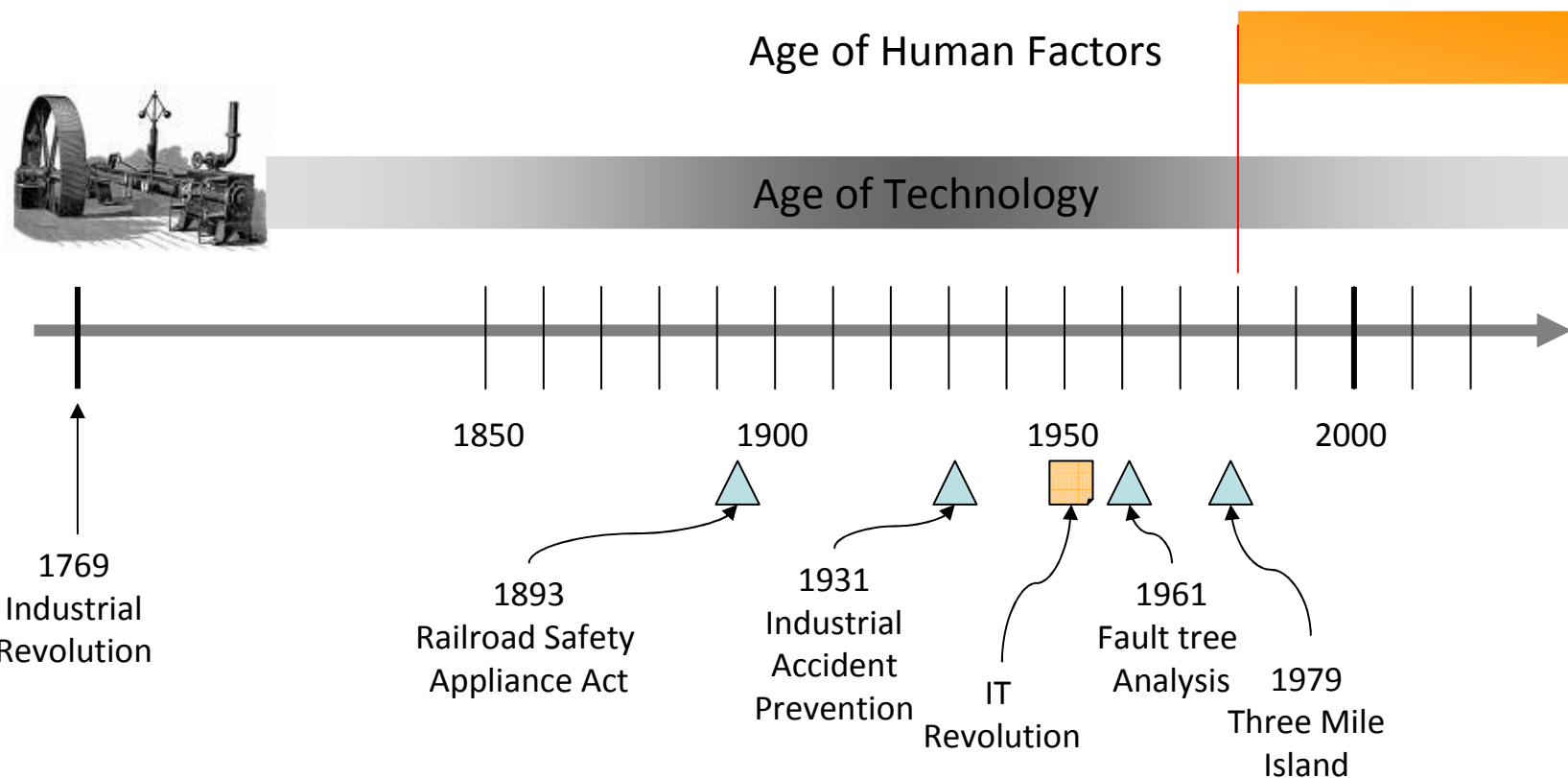


Age of Technology



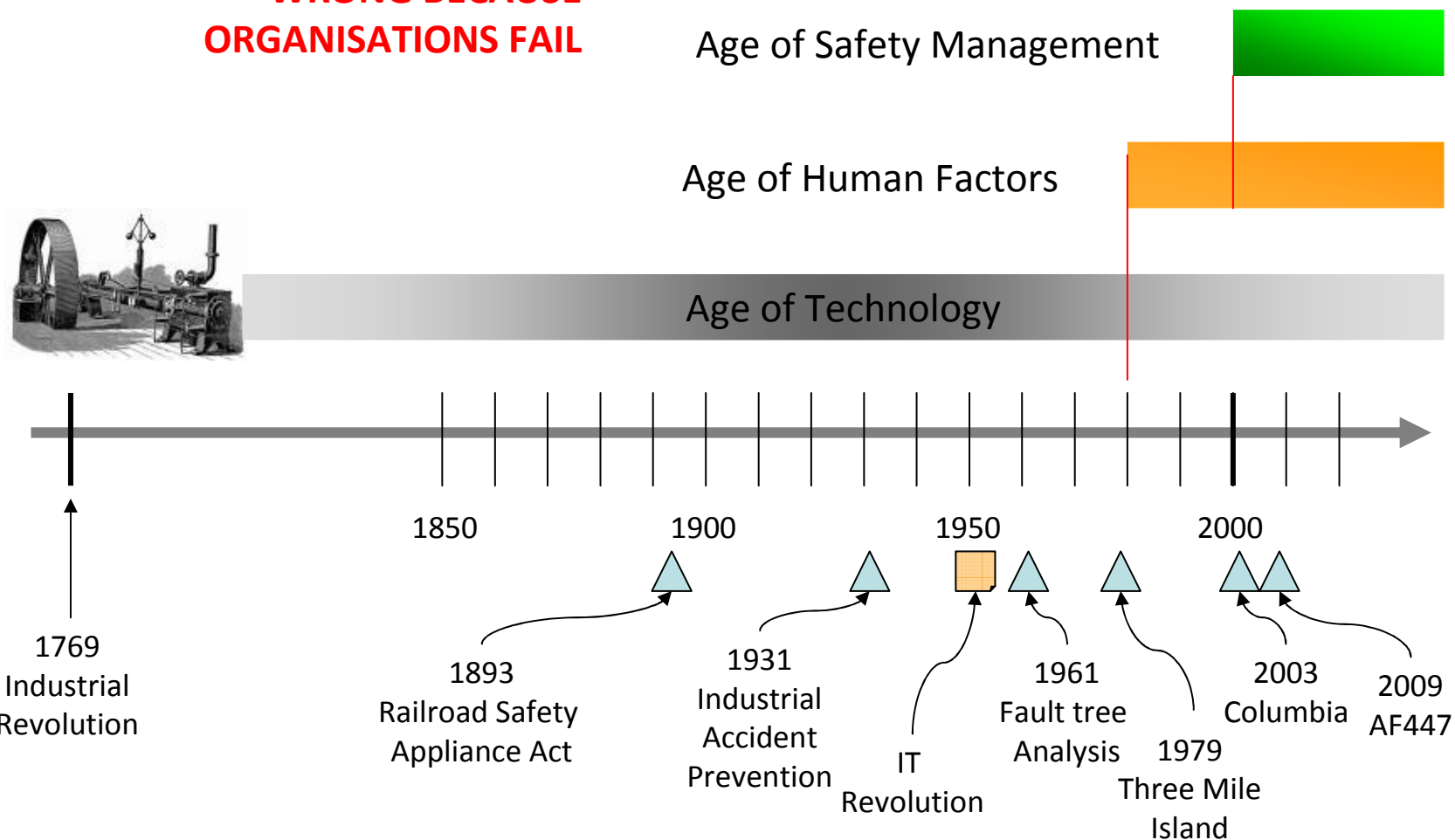
Three ages of Industrial Safety

**THINGS CAN GO WRONG BECAUSE
THE HUMAN FACTOR FAILS**

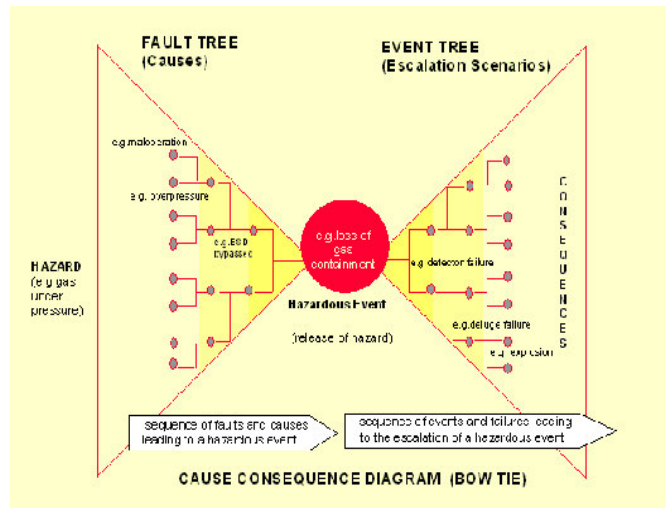


Three ages of Industrial Safety

**THINGS CAN GO
WRONG BECAUSE
ORGANISATIONS FAIL**



Two views of Safety Management



- Classical safety management uses a structural (component) view. The aim is to reduce the number of things that go wrong (**safe productivity**).
- Efforts focus on avoiding that something happens again (“fixing weaknesses,” prevention, protection).

- The more modern approach uses a functional view. The aim is to improve the number of things that go right (**productive safety**).
- Efforts focus on enhancing the organisation’s ability to **respond, monitor, anticipate**, and **learn**.



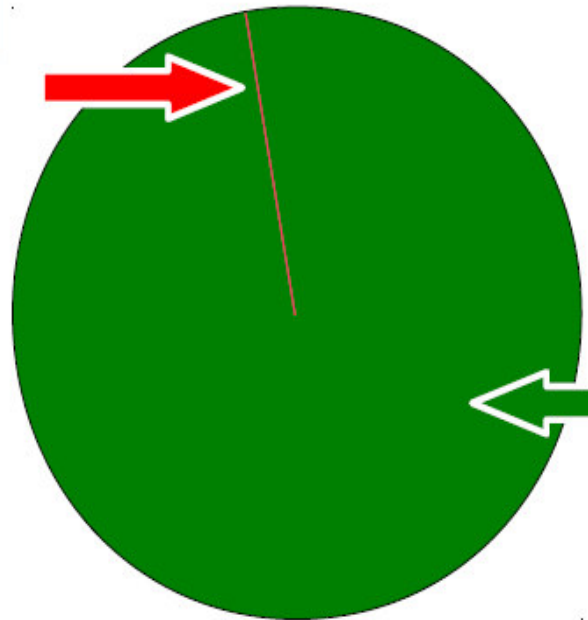
The views on Safety ! Is it enough to look at negative aspects?

Safety = Reduced number of adverse events.

Focus is on what goes wrong. Look for failures and malfunctions. Try to eliminate causes and improve barriers.

Safety and core business compete for resources. Learning only uses a fraction of the data available

$10^{-4} := 1 \text{ failure in } 10.000 \text{ events}$



$1 - 10^{-4} := 9.999 \text{ nonfailures in } 10.000 \text{ events}$

Safety = Ability to succeed under varying conditions.

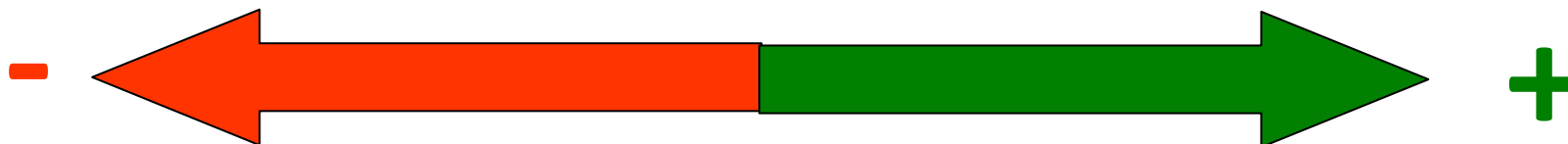
Focus is on what goes right. Use that to understand normal performance, to do better and to be safer.

Safety and core business help each other. Learning uses most of the data available.

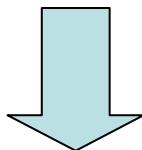
From Negative to the Positive

Negative outcomes are caused by failures and malfunctions.

All outcomes (positive and negative) are due to performance variability.

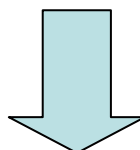


Safety = Reduced number of adverse events.



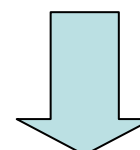
Eliminate failures and malfunctions as far as possible.

Safety = Ability to respond when something fails.



Improve ability to respond to adverse events.

Safety = Ability to succeed under varying conditions.

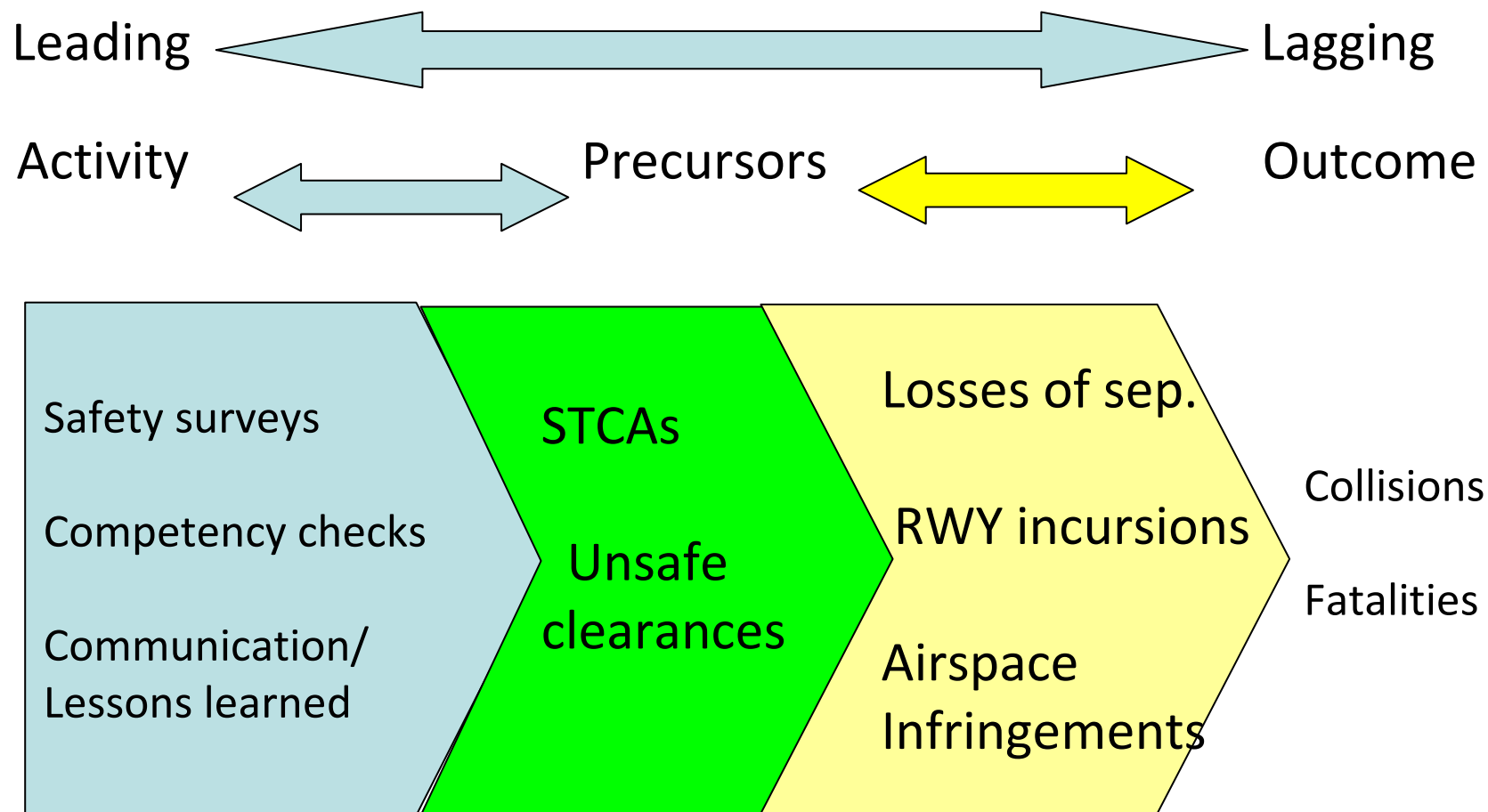


Improve **resilience**.

Some reflections on Safety Performance Indicators

- **SPIs needs a Benefit**
 - *Changing Behaviour -> Changing Performance*
 - *Risk Management Effectiveness*
 - **(Safety and Cost)**
- **SPI Reporting?**
 - *Observation versus Influence*
 - *Available versus Alive*
- **Purpose Driven?**
 - *Reassurance versus Direction*
 - *Oversight versus Risk Management*
 - *Driving the right behaviours?*
- **Part of a Bigger Picture?**
 - *Industry wide / Cross Industry*
 - *Nationally / Internationally*
- **Data Sources?**
 - *Convenience versus Reliability*
 - *Available versus Aspirational*
- **Measurement?**
 - *Measurement versus counting*
 - *Safety versus Risk*
 - *Measuring to outcomes?.*

Degrees of indicators leading vs. lagging/ process vs. outcome



What is the role of Safety Indicators ?

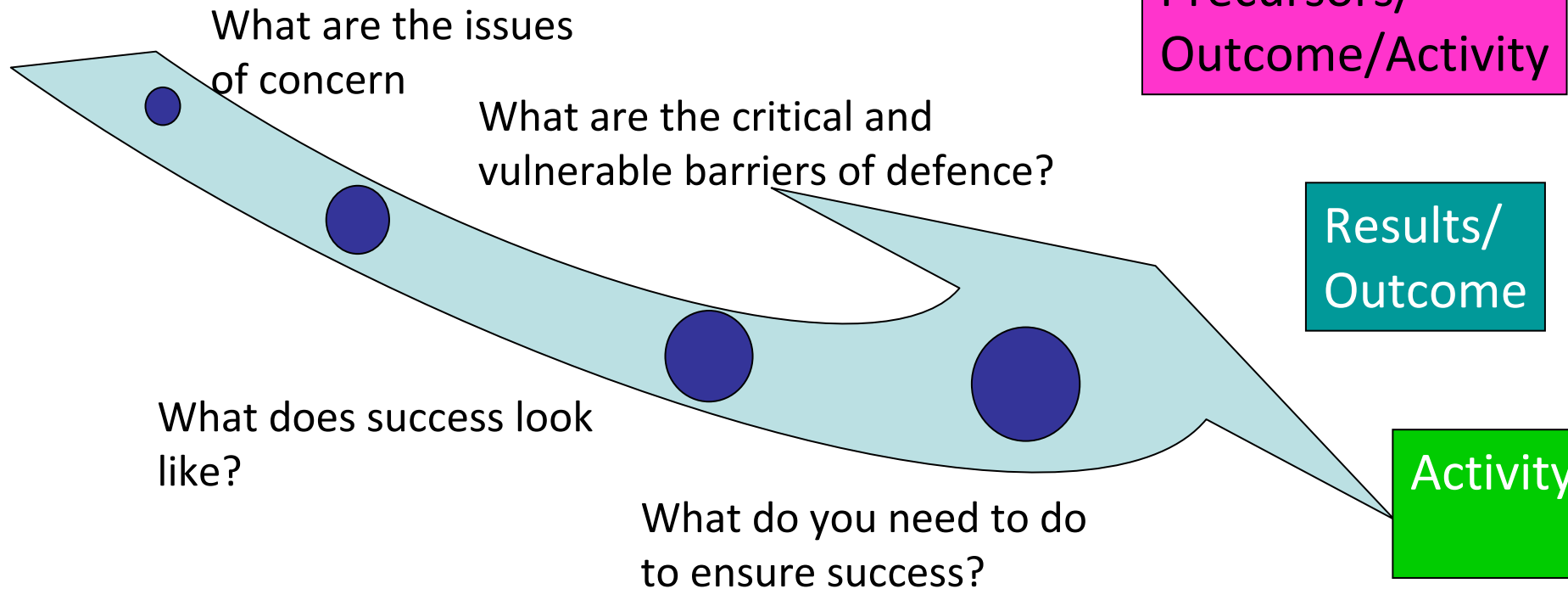
The key to identifying SPIs is to home in on the areas of “vulnerability” or of our “**resilience**”

Accidents/
Outcome

Precursors/
Outcome/Activity

Results/
Outcome

Activity

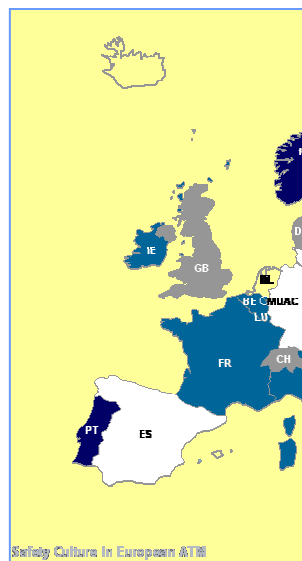


Is there any good news ?

- We have and we are improving Taxonomies (both negative and positive);
- We have tools and methods;
- We are studying vary type of signals (weak & strong, tangible & intangible);
- We are developing (Leading/Lagging or Process/Outcome) Indicators;
- And we work together at local , FAB and Network level;
- We have SMS Roadmaps and Performance Plans covering SPIs and KPIs for ANSPs and FABs
 - Soon NM will have its own Perf Plan;
- *SPIs and KPIs is a sensitive area of interface with NSAs and Public.*

Safety Culture

FABs, Multiculturalism & CEOs



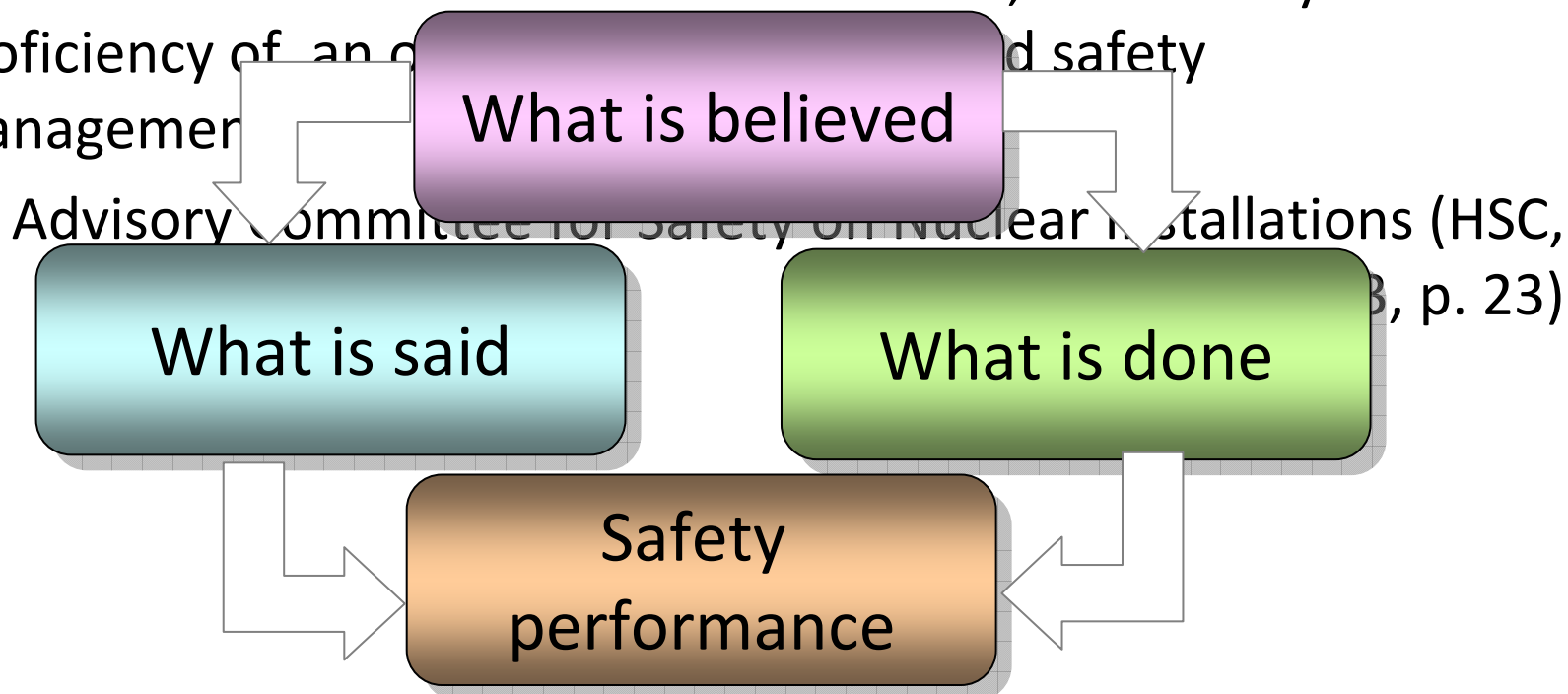
FABs will bring together
different ways of doing things.
Different ANSPs must
become one team.

This requires understanding,
and leadership from the top as well
as understanding of the culture of
Organizations



What is safety culture?

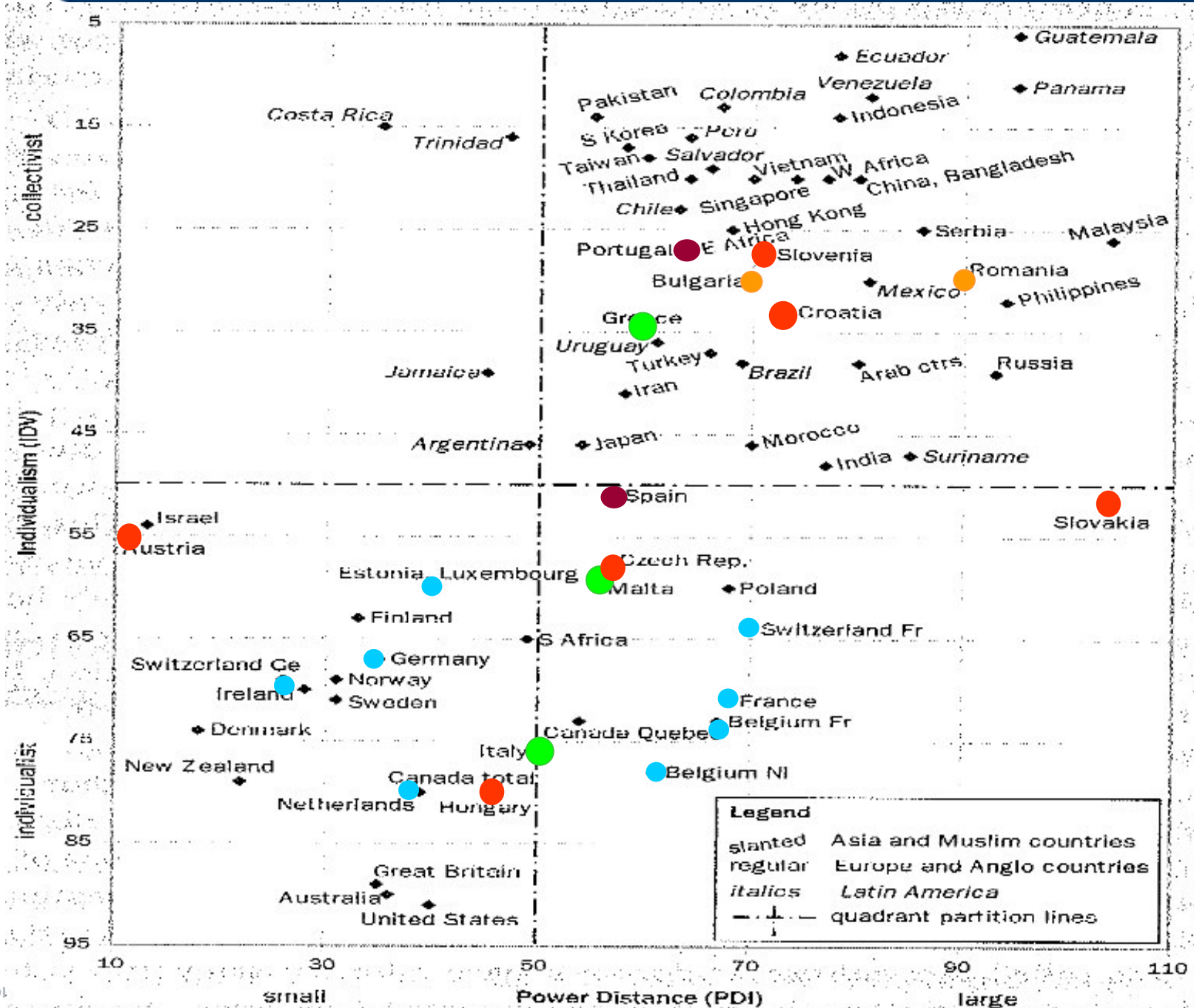
‘The safety culture of an organisation is the product of individual and group values, attitudes, competencies and patterns of behaviour that determine commitment to, and the style and proficiency of, an organisation’s safety management’



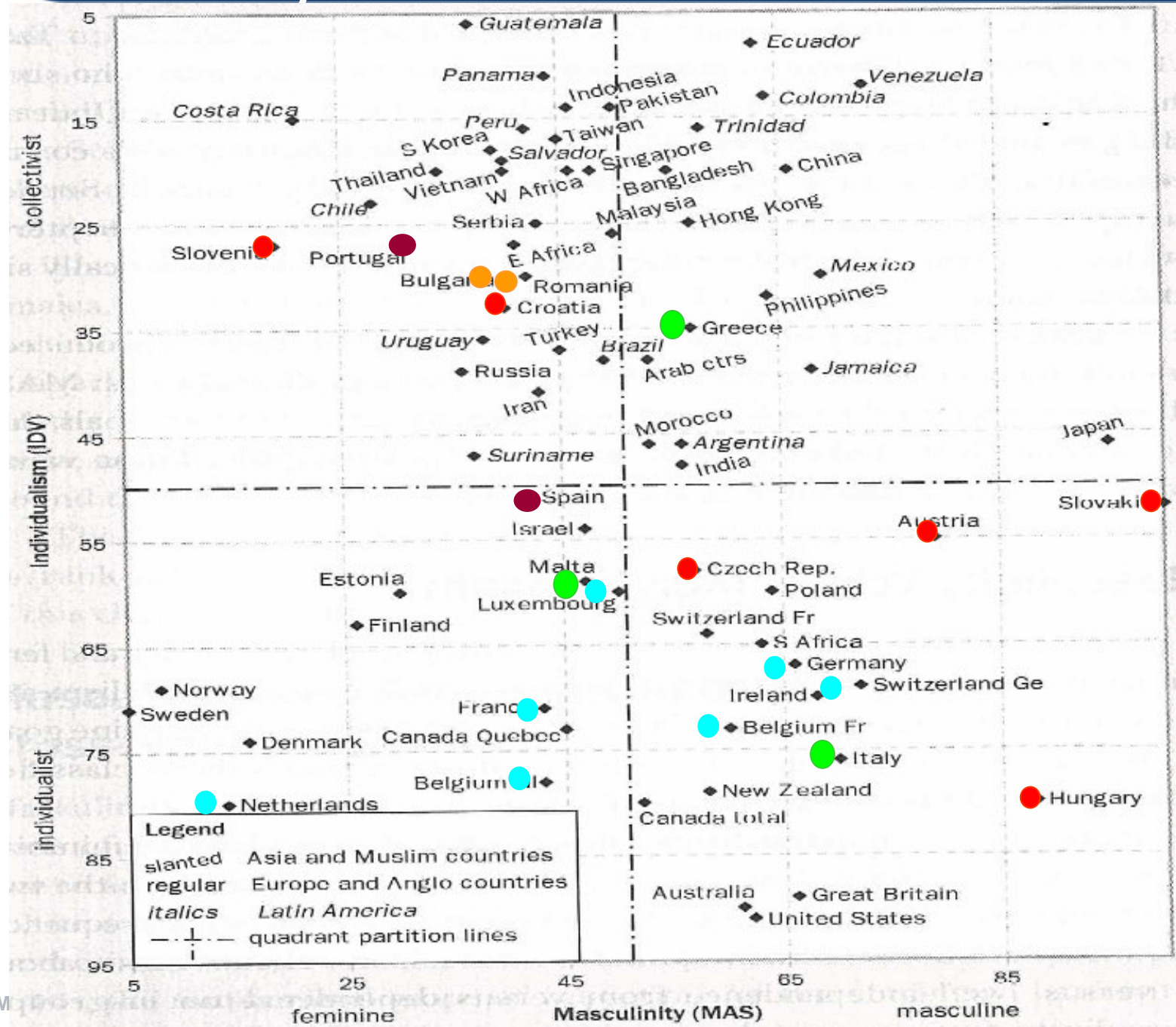
Dimensions of National Cultures that affect the Culture of Organizations

- [1] Power Distance
 - More equal then others;
- [2] Individualism vs. Collectivism
 - I , We and They;
- [3] Masculinity vs. Feminity
 - He, She and (S)he;
- [4] Uncertainty Avoidance
 - What is different is dangerous;
- [5] Long and Short Term Oriented
 - Yesterday, Now or Later.

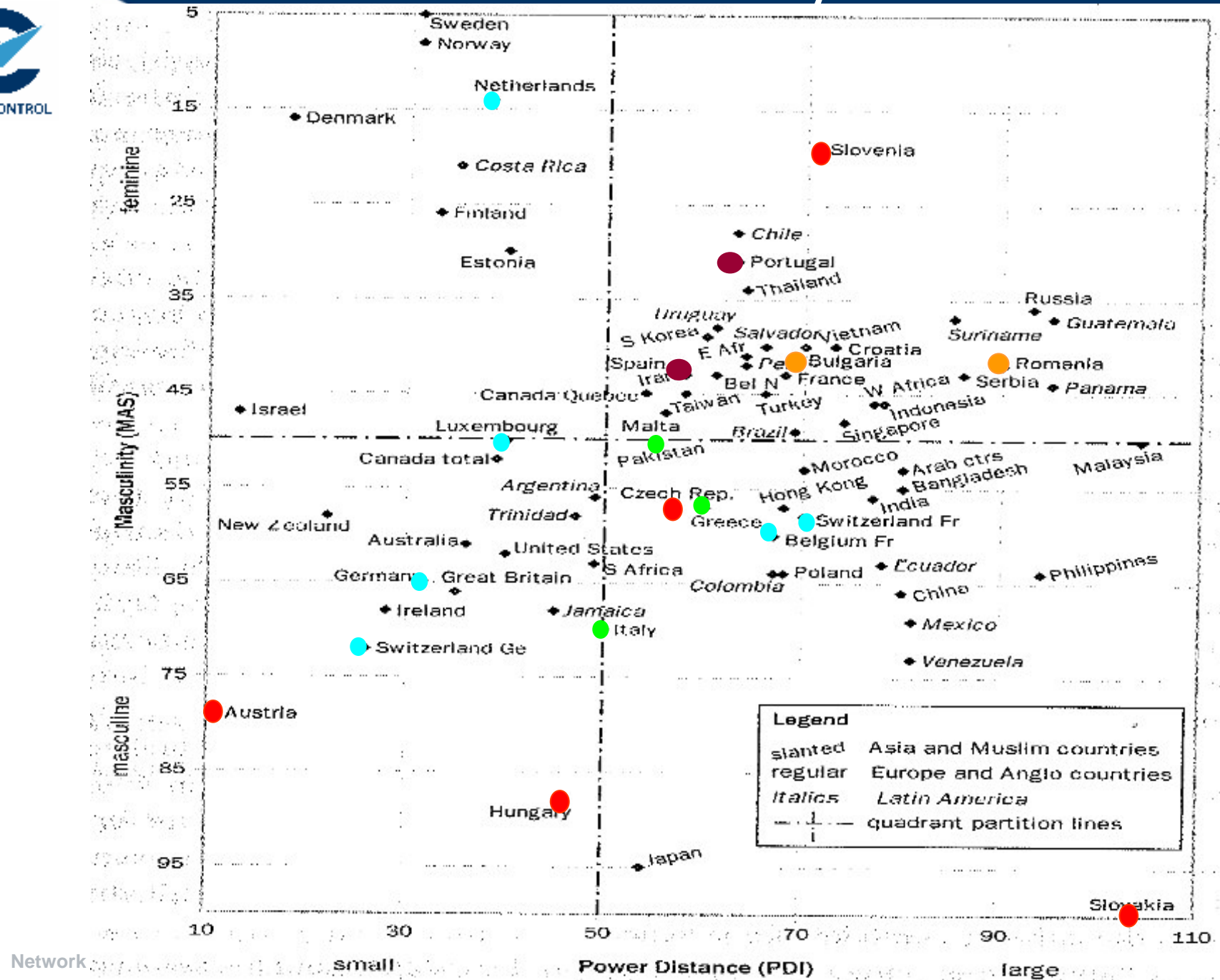
Power Distance Versus Individualism



Masculinity Versus Individualism



Power Distance Versus Masculinity



The Challenge of Leadership for Multicultural FABs

Key Leadership Skills

- Using **empathy** to understand the business context and get 'hearts and minds';
- Avoiding quick judgements, understanding the values and **historical reasons** for them ;
- **Balancing** different perspectives;
- Treating fundamental values as **non-negotiable**, but using cultural intelligence;
- Assuming an attitude of **questioning** rather than asserting,
- Don't get stuck on positions – dig into why it is important to people and find the **shared values**.

Working Together

- We need to deploy the mechanics i.e. the FAB SMS Roadmaps that were developed in the past 2 years, but;
- We need to keep the pace to complete all the Safety Culture measurements by end of 2013;
- Will need to start looking at multi-culturalism in FABs and try first FAB Safety Culture measurements at the end of RP1 beginning of RP2.





Intercultural Cooperation is the solution for Survival – we need to work with the Software of the Mind

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