

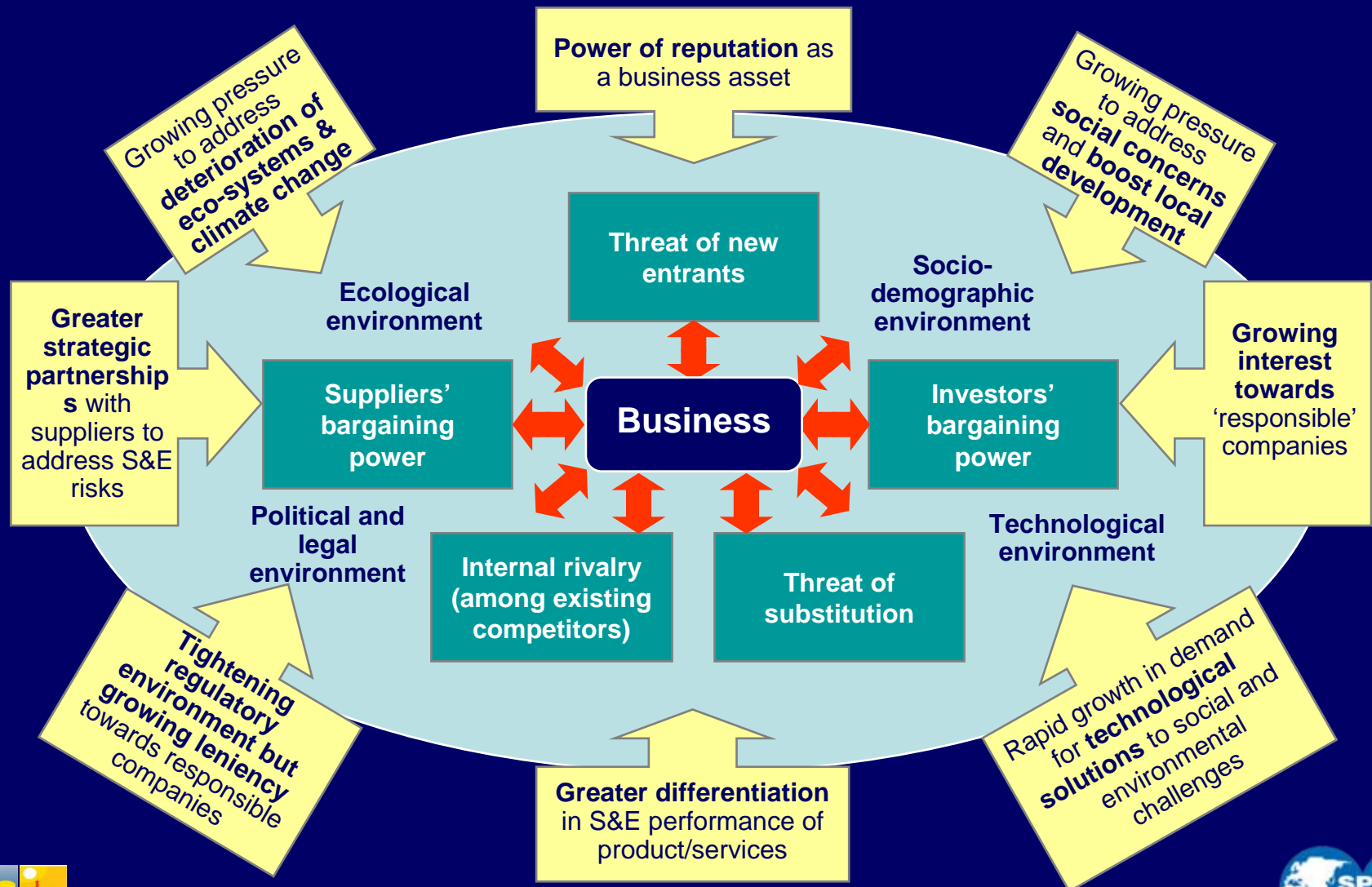


HSE and Sustainability approach to deliver long term business value

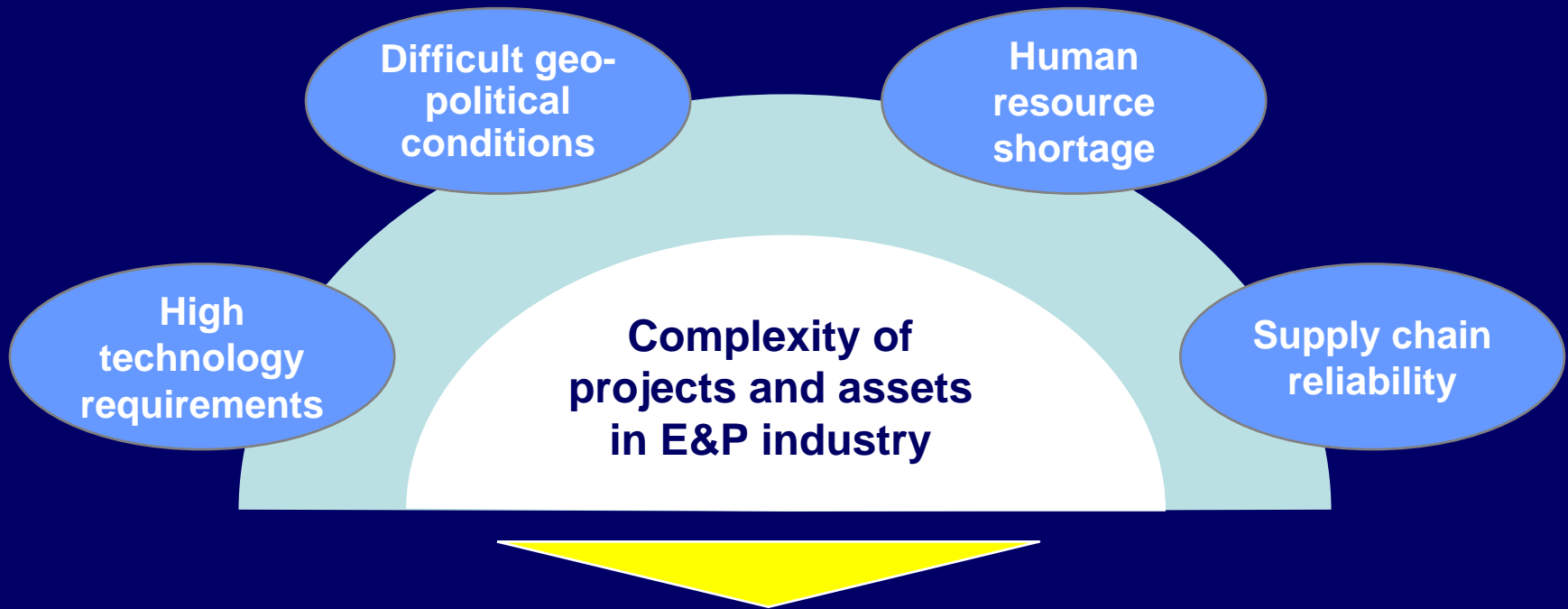
Davide Vassallo

SPE Italian Section Workshop
“Competitiveness: what future in the E&P Industry?”

A wide set of external pressures has resulted in a more competitive landscape in which a business is developed



Nowadays E&P industry is facing big challenges due to elements of complexity potentially affecting the business profitability



A number of HSE and Sustainability issues which need to be addressed systematically are embedded in each of these elements

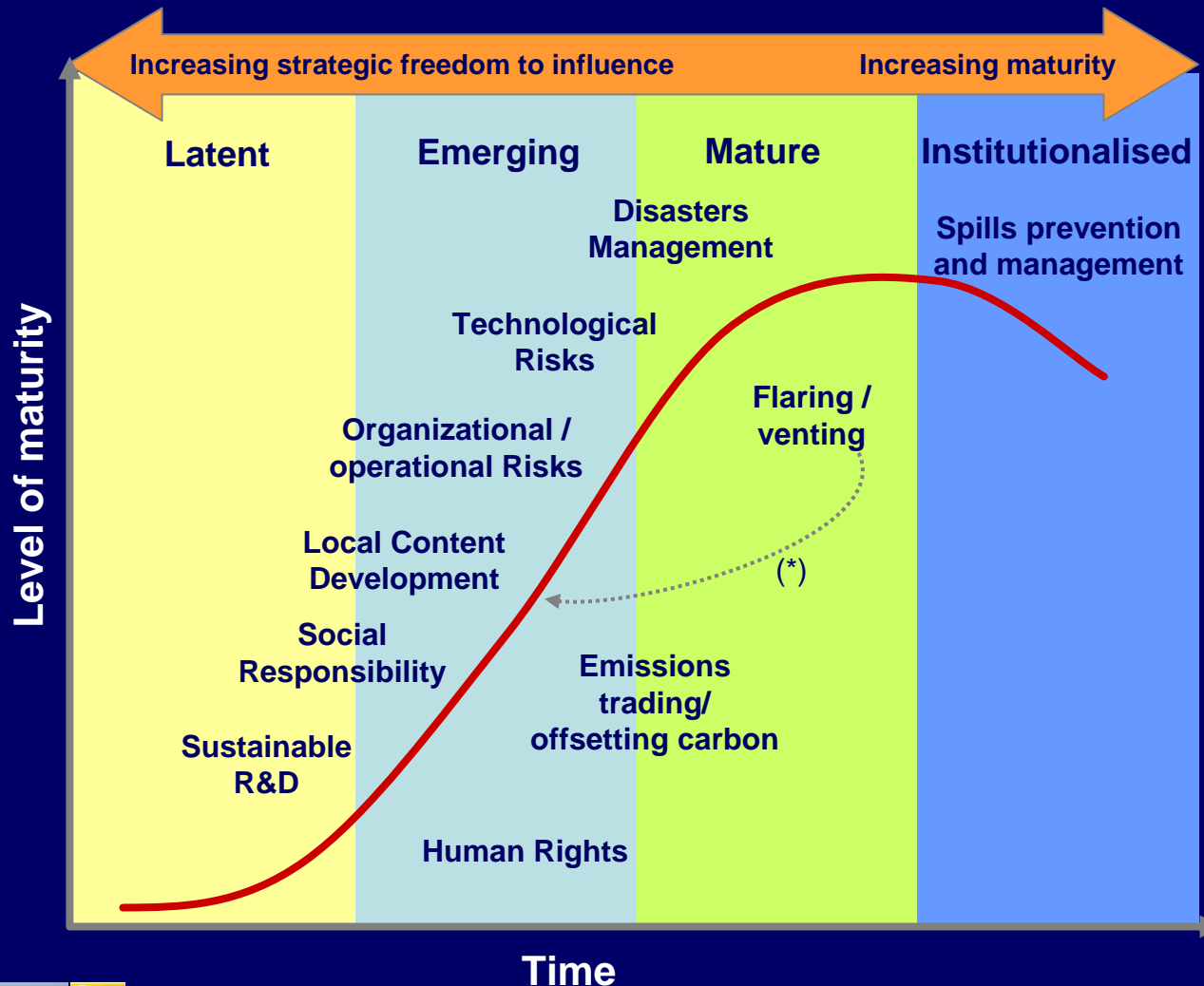
High technology requirements and difficult geo-political conditions in which new projects are developed represent elements of complexity for the E&P industry...

Elements of complexity	Key HSE & Sustainability aspects		Example
High technology requirements	Environment	Air and water pollution - Accidental	Disasters and spills management, Ecosystems protection
		Air pollution - Continuous	Flaring, venting, diffusive emissions
	Safety & Risk	Risks to personnel safety due to hazardous properties of oil & gas	Higher H2S content, ultra heavy oil, tar sands, etc.
		Increased risks due to more severe exploitation conditions	Ultra deep-water e.g. Brazil, Gulf of Mexico, West Africa
Difficult geo-political conditions	Social / Sustainability	Social Responsibility	Support to local business, projects and resources Contribution to public policy
		Sustainability of the Business Model	Human rights Sustainable R&D

...as well as the potential for human resource shortage in the next 10 years and the reliability of the supply chain

Elements of complexity	Key HSE & Sustainability aspects		Example
Human resource shortage	Safety & Risk, Environment	Organizational risks	Potential shortage of human resources Safety & Environmental Culture
		Operational safety	Lack of adequate expertise required for safe and reliable operation
Supply chain reliability	Safety & Risk	Contractors management and supplier reliability	Poor contractors HSE performances Contractor's personnel with different cultures and languages
	Social / Sustainability	Social Responsibility	Local content development
		Sustainability of the Business Model	

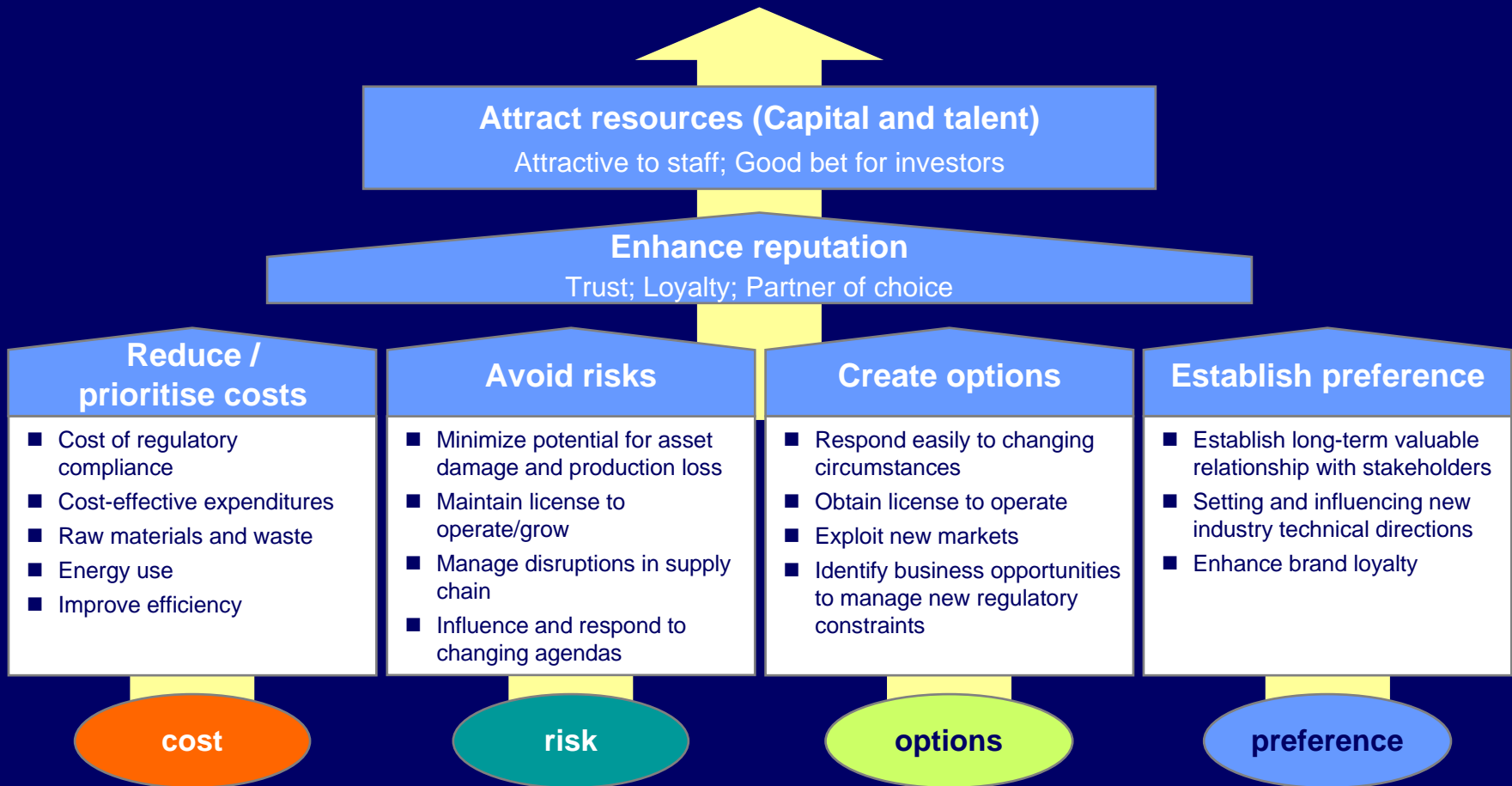
Each of the HSE and Sustainability topics has reached a different level of maturity



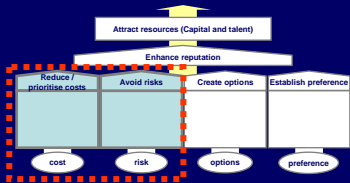
- Emerging and latent issues may be seen as a competitive variable to differentiate the company business
- Mature and Institutionalised issues are managed as part of the license to operate

(*) Emerging or even latent issue for those E&P assets located in developing countries which will adhere to Kyoto Protocol

In order to gain competitive advantage, the business case for HSE and Sustainability related topics need to be delivered

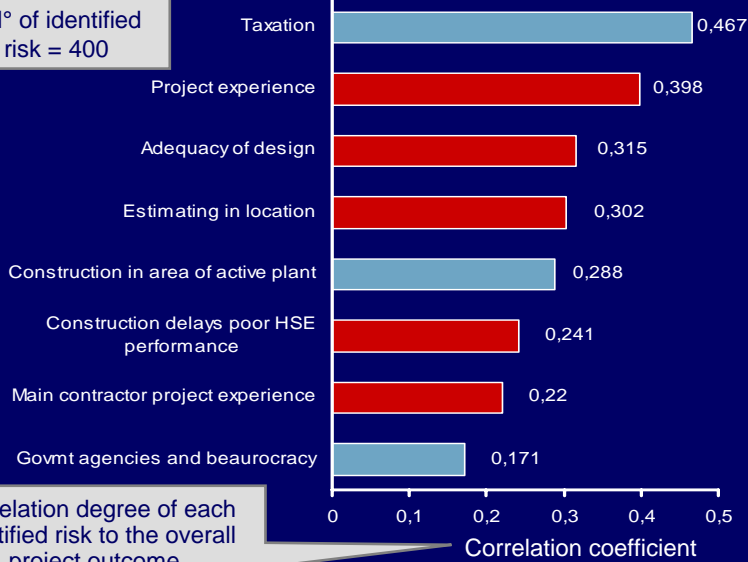


HSE risks potentially affecting the development of a project can be evaluated and managed in a common framework together with other business risks



Identification of top project risks

Total N° of identified project risk = 400



Correlation degree of each identified risk to the overall project outcome

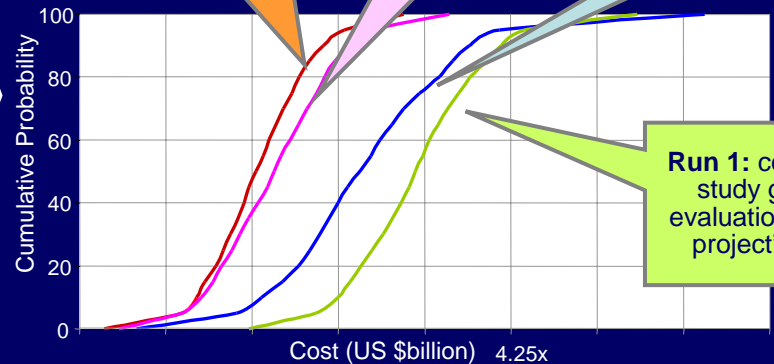
The company identified those risks that could be properly managed (in red) and the ones which decided to retain (in blue)

Options for project risk reduction

Run 4: expert group evaluation of the project's risk (including specific management of MWC* performance)

Run 3: expert group evaluation of the project's risk (after mitigation plan)

Run 2: expert group evaluation of the project's risk

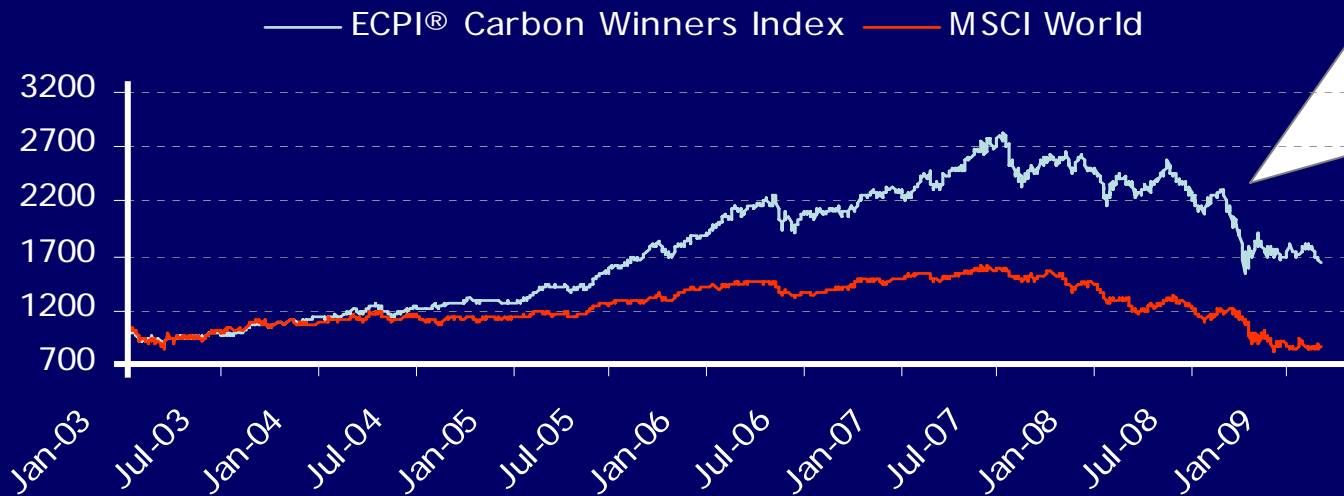
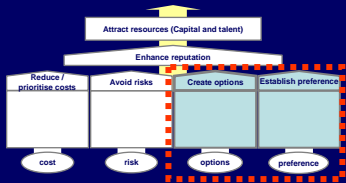


Run 1: complete study group evaluation of the project's risk

Overall project benefit anticipated if selected risks (shown in red on left box) are managed effectively and their influence is mitigated

(*) Main Work Contract

Leading companies have recognized new opportunities from the management of HSE and Sustainability aspects



Oil & Gas Companies included in the ECPI

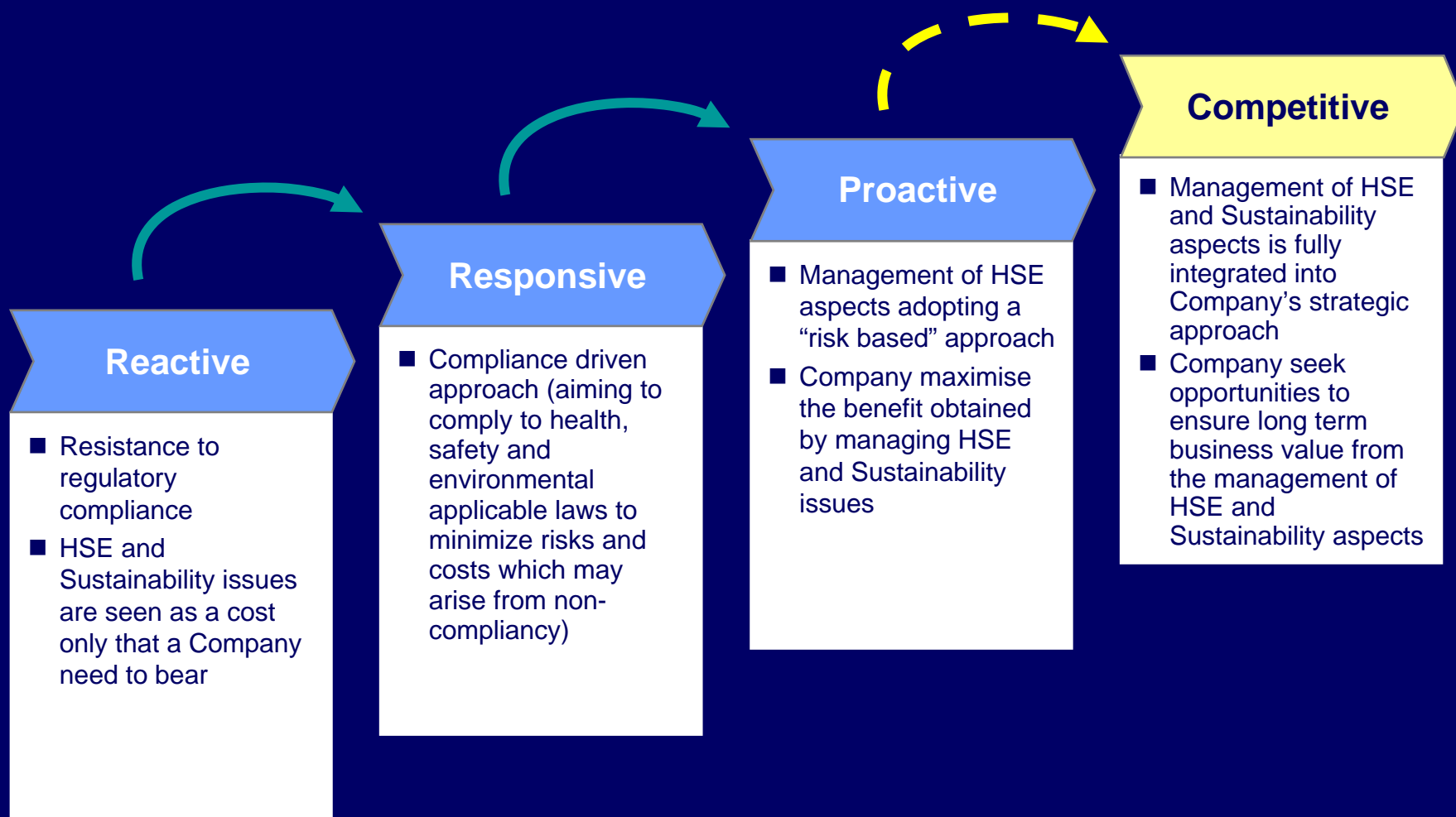


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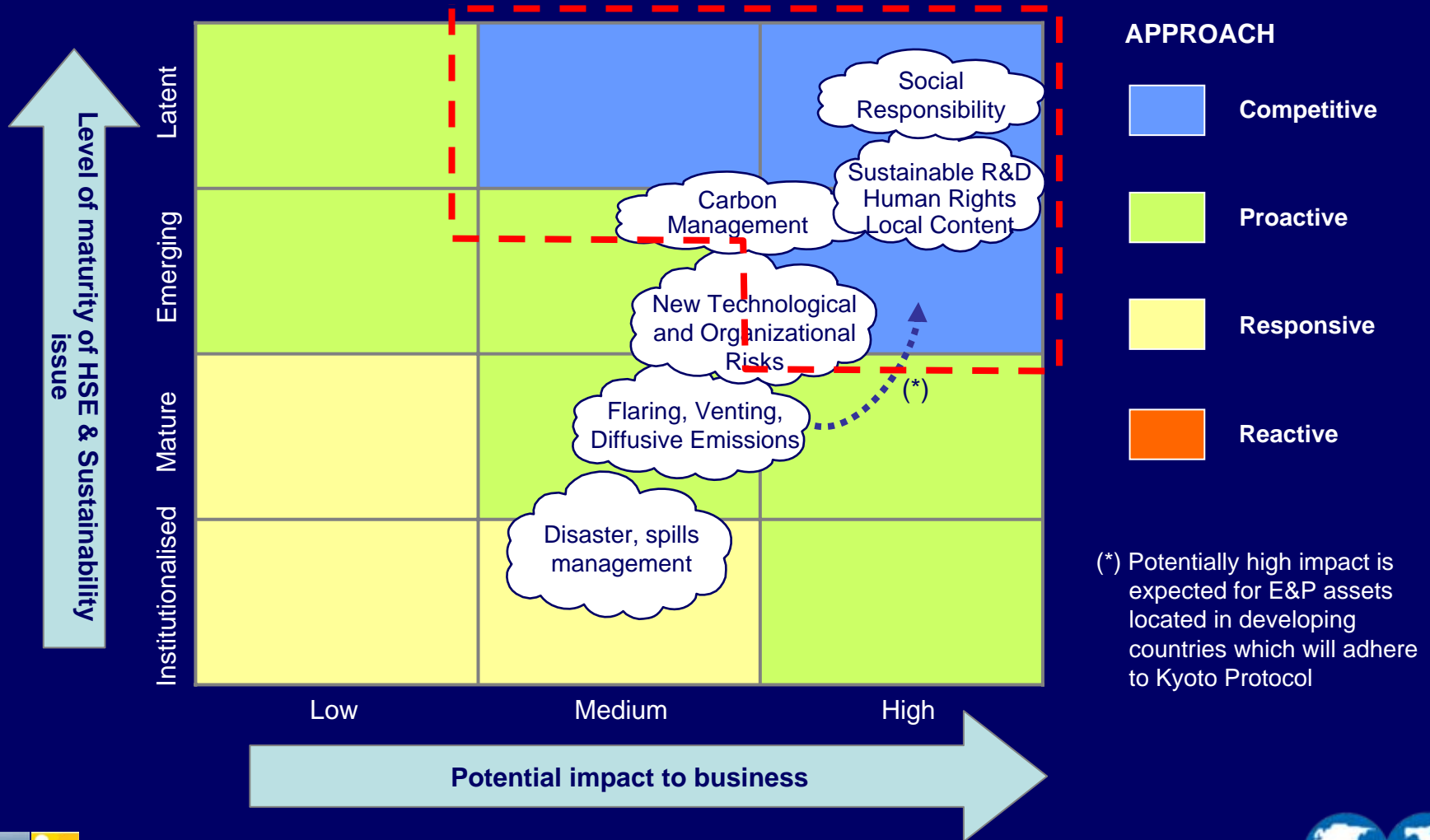


- ECPI Carbon Winners Equity Index selects the Companies that are best positioned vis à vis their current and expected future Carbon Emission Policy on an absolute and relative basis
- Companies included in the ECPI's Carbon Winner Index show better performances on capital market (performing about 20% better than the market average)

Competitive advantage can be obtained when the management of HSE and Sustainability topics is fully integrated into Company's strategic approach...



...and focus on emerging and latent topics having high impact to the business



Conclusions

- **Strategic HSE and Sustainability topics management is a key competitive variable in the E&P industry**
- **Competition is main focused on latent and emerging topics such as Social Responsibility, Local Content Development, Human Rights, Sustainable R&D and Carbon Management**
- **Competitive management of such aspects require:**
 - **Systematic identification of internal and external HSE and Sustainability topics which may affect business performance**
 - **Understanding of the potential impact to the business at present and in the future**
 - **Implementation of a management process integrating HSE and Sustainability aspects with economical and financial evaluations**
 - **Development of culture and awareness throughout the company**
 - **Marketing the HSE & Sustainability excellence**

THANKS FOR YOUR ATTENTION !

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