Integrated program management – Dealing with megaproject complexity

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The complexity of megaprojects often overwhelms typical corporate or public organizations – or even distinct project companies

The core issue: megaproject complexity vs. traditional organizations

Megaprojects are inherently complex…

> Multitude of stakeholders involved

> Political projects – with high public scrutiny

> Multi-layered legal and regulatory frameworks

> Challenging large-CAPEX financing

> Innovative and difficult technical solutions

> Constantly changing project environments over long project lifecycle – e.g. changing business case assumptions threatening commercial viability, changing stakeholder attitudes ("permit and forget" rarely works)

> Significant environmental and social impact

… often overwhelming organizations

> Traditional functional & "silo" structures:
  – Technical department
  – Commercial department
  – Executive and overhead/service functions

> Dozens of different contractors, service providers – often assembled ad – yet creating significant interface risks

> Multi-shareholder structures – each brining a distinct agenda

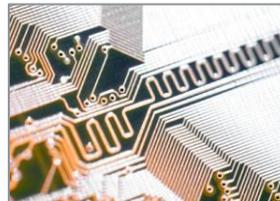> No shared history, culture, working "DNA" – megaprojects are typically one-of-a-kind

At the core of project management needs to be a comprehensive, inter-disciplinary methodology to get a grip on complex issues

Integrated, holistic approach

Governance, organization	Technical, engineering	Legal, regulatory	Commercial, financial	Environmental/ Stakeholder management

1. **Cross-disciplinary task forces** with agile adaptation of management focus blind

2. **Reporting and monitoring structures to guarantee "one truth"** in all mgmt. reporting

3. **Holistic de-risking and risk mgmt. approach** that mitigates typical interface risks

4. **Stakeholder management as integrated part of project organization** in all phases

5. **Regular re-focus of mgmt., review and adaptation** of org., timeline, budget

6. **World class tools to create a strong, agile team** and a high performance culture

In our integrated project management approach, we break "silo" structures and set-up an organization based on Task Forces

A task-oriented organizational set-up

Technical

Environmental

Legal/regulatory

Financing

Communication

…

> **Combine critical tasks** and focus resources comprehensively to reach main project objective

> **Eliminate "pillarization" with function-spanning teams**, enforce a single perspective and enable goal-oriented management

> **Integrate of local experts and ad-hoc experts in the target regions** into Task Forces to enable teams to reach out to stakeholders

> **Have Task Forces report** acc. to a milestone-based subproject schedule

> **Give rapid support to task forces** that are in trouble

We implement monitoring and reporting structures that ensure Rapid and Appropriate Decisions with Accurate Response (RADAR)

Effective monitoring and reporting for RADAR

> Fast and accurate decisions under changing circumstances – our **RADAR** that we implement via an **Executive Intelligence Office**

> CEO-targeted **set of frameworks, support schemes, techniques, e.g.**:

– **Forward rather than backward looking monitoring/reporting:** "Are we getting where we want to go?" rather than "Are we doing what we set out to do?"

– Cross-disciplinary, state-of-the-art analysis and **visualization**

– Decision **acceleration**

> **"One truth principle"** – there is only <u>one</u> schedule, budget, risk assessment, etc. – no "alternative views" in different project areas

ENGINEERING/ TECHNICAL

PROCUREMENT/ BUSINESS DEVELOPENT

HSSE

PERMITTING

Company

Shareholder

Stakeholder

World

LEGAL

FINANCE

PROJECT CONTROL
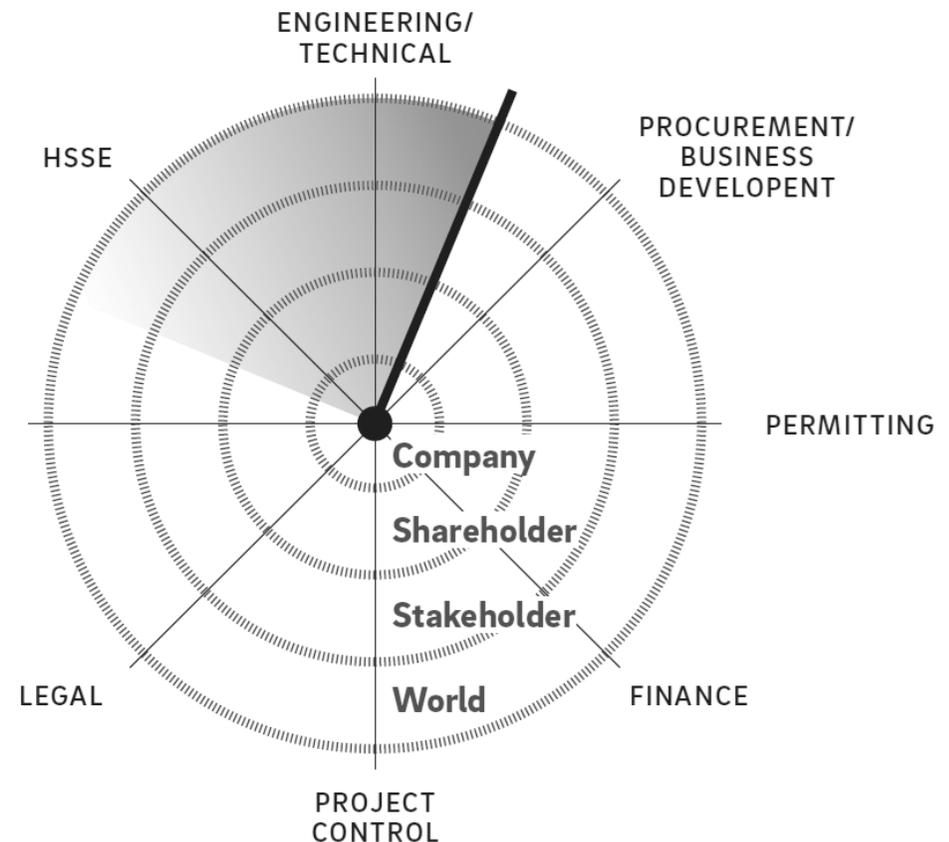
We apply a holistic and meticulous risk management approach – Rolling risk monitors as well as dedicated simulations

Two elements of successful megaproject risk management

1 Rolling, bottom-up mapping of key risks with the organization – facilitated, steered and condensed by a strong PMO
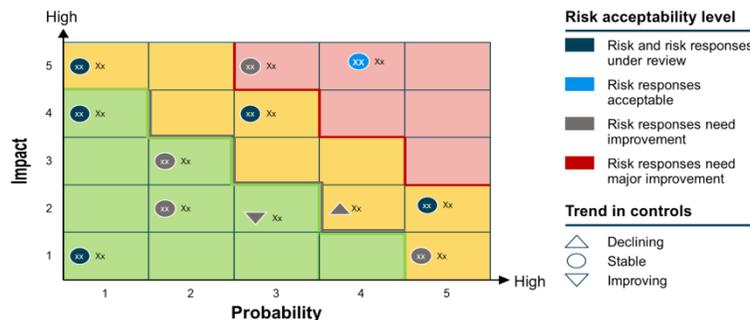
> Qualitative interviews with org. using targeted questionnaires based on experience with typical pitfalls
> Then: independent assessment focus on real showstoppers in plain language

2 Periodical simulation of key project variables to analyze probabilities of different project outcomes (e.g. Monte Carlo)
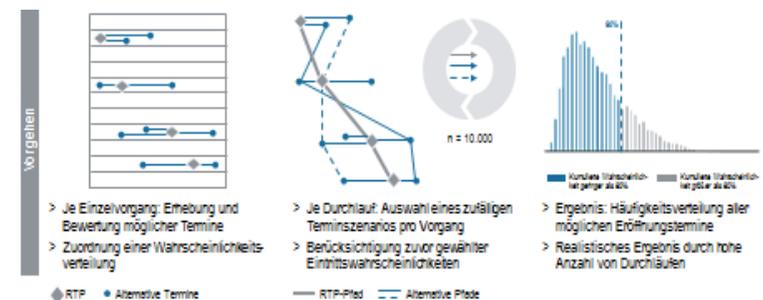
> Sophisticated risk analysis covering all project areas to assess the probability of different completion scenarios
> "Random-selection/outcome" approach of Monte Carlo

Given significant risks and increasing demands, we make stake-holder mgmt. an integral and strategic part of the project early on

(Local) stakeholder engagement in (infrastructure) megaprojects

Stakeholders matter for project success – and ever more so …	**Stakeholder mgmt. requires a prominent place – and a real strategy …**	**… and should rely on a dedicated toolkit for engagement**

> **Global standards** for (local and env.) stakeholder involvement ever increase – transparency, consultation, participation, etc.

> Local opposition can signifi-cantly **delay a project and drive up costs**, e.g. due to:
– Erosion of political support
– Onerous court proceedings during land easement & acquisition processes
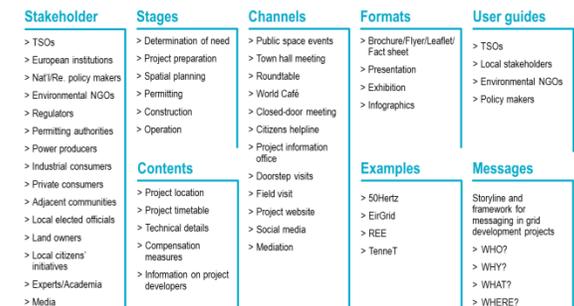– Concerns of lenders

> A dedicated **function** within the project organization – with interfaces e.g. to permitting, engineering, ESIA, etc.

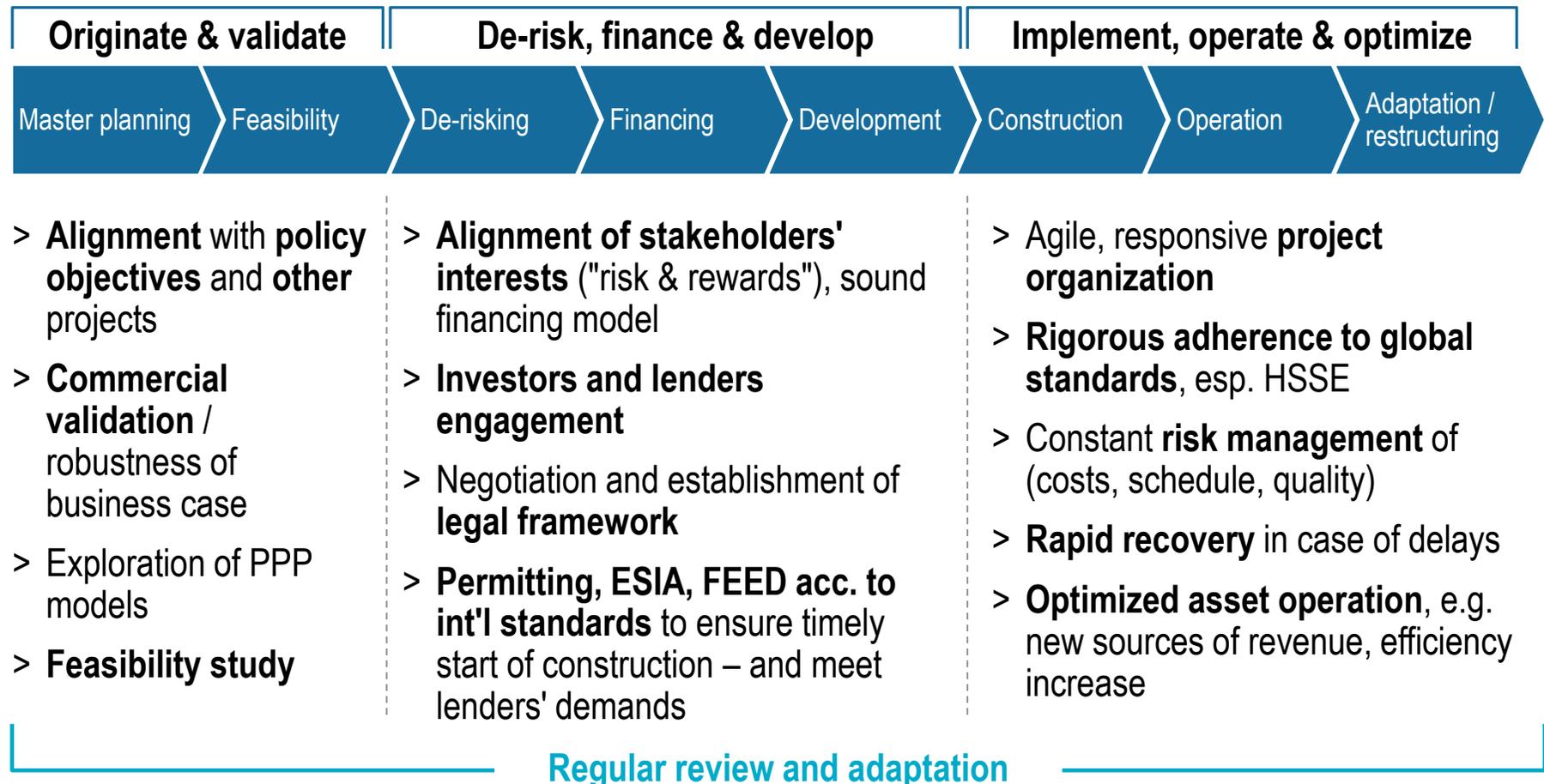> A real **strategy** – stakeholder mapping, objectives, timeline, measures, messages

COMPREHENSIVE PROGRAM MANAGEMENT

TECHNICAL	ENVIRON-MENTAL	LEGAL/ REG.	FINANCIAL	STAKE-HOLDER
Engineer/ Technician	EIA-experts	Lawyers	Economists	Communi-cation experts

> **Stakeholder categories** (e.g. NGOs, local communities, local politics, industry)

> **Channels and formats** for project communication

> **Timing** and messaging

Stakeholder	Stages	Channels	Formats	User guides
> TSOs	> Determination of need	> Public space events	> Brochure/Flyer/Leaflet/ Fact sheet	> TSOs
> European institutions	> Project preparation	> Town hall meeting	> Presentation	> Local stakeholders
> Nat'l/Re. policy makers	> Spatial planning	> Roundtable	> Exhibition	> Environmental NGOs
> Environmental NGOs	> Permitting	> World Café	> Infographics	> Policy makers
> Regulators	> Construction	> Closed-door meeting		
> Permitting authorities	> Operation	> Citizens helpline		
> Power producers		> Project information office		
> Industrial consumers	**Contents**	> Doorstep visits	**Examples**	**Messages**
> Private consumers	> Project location	> Field visit	> 50Hertz	Storyline and framework for messaging in grid development projects
> Adjacent communities	> Project timetable	> Project website	> EirGrid	
> Local elected officials	> Technical details	> Social media	> REE	
> Land owners	> Compensation measures	> Mediation	> TenneT	> WHO?
> Local citizens' initiatives	> Information on project developers			> WHY?
> Experts/Academia				> WHAT?
> Media				> WHERE?

Source: Roland Berger

To effectively steer complex projects, management focus needs to shift to most pressing demands of each project stage

Regular re-focus of mgmt., review and adaptation of organization, timeline, budget

Originate & validate	De-risk, finance & develop	Implement, operate & optimize
Master planning > Feasibility	De-risking > Financing > Development	Construction > Operation > Adaptation / restructuring

> **Alignment** with **policy objectives** and **other** projects	> **Alignment of stakeholders' interests** ("risk & rewards"), sound financing model	> Agile, responsive **project organization**
> **Commercial validation** / robustness of business case	> **Investors and lenders engagement**	> **Rigorous adherence to global standards**, esp. HSSE
> Exploration of PPP models	> Negotiation and establishment of **legal framework**	> Constant **risk management** of (costs, schedule, quality)
> **Feasibility study**	> **Permitting, ESIA, FEED acc. to int'l standards** to ensure timely start of construction – and meet lenders' demands	> **Rapid recovery** in case of delays
		> **Optimized asset operation**, e.g. new sources of revenue, efficiency increase

Regular review and adaptation

In our experience, elaborate project management tools can make a difference – when they really tackle specific challenges
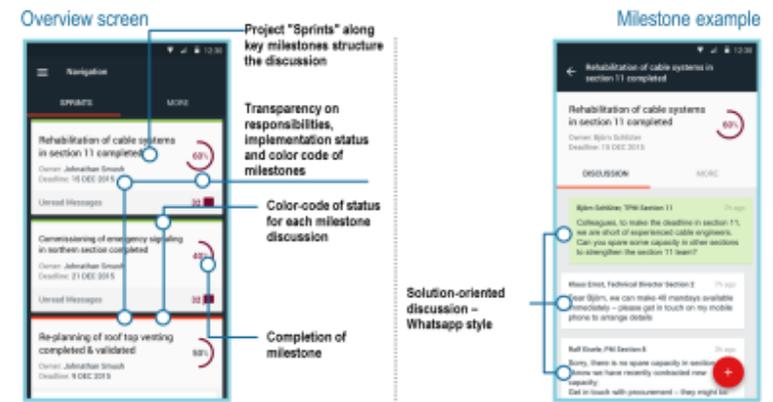
Two examples of world-class RB tools and where they really matter

1 A world-class comprehensive program mgmt. tool – RB Point
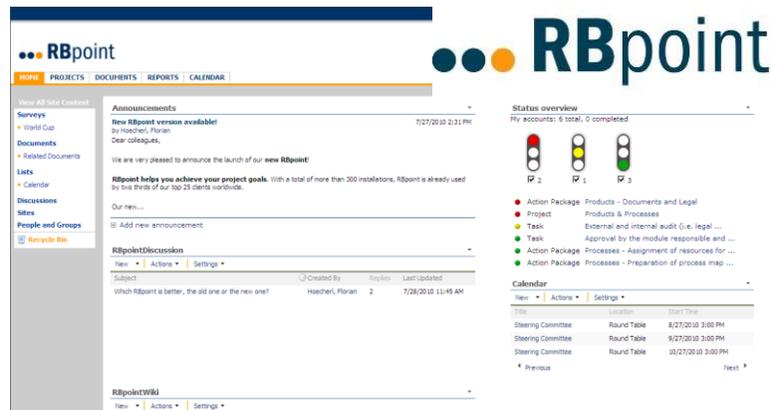
> Flexible configuration according to the needs of the project, distributed architecture
> Real time steering of progress, systematic monitoring of KPIs

## 2 An innovative app to facilitate oroject communication – RB Jazz

> Addressing the need for efficient interaction of many stakeholders
> App to overcome typical communication barriers of geography, hierarchy or organizational entities

To conclude, let's look at how integrated project management in the 6 dimensions ensured the success of the Nord Stream 1 pipeline

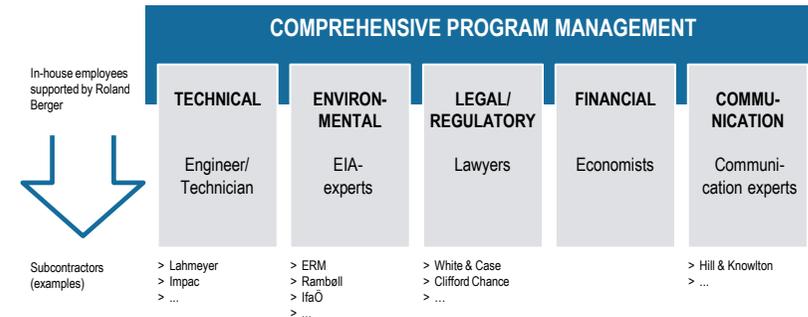## Short case study: the Nord Stream 1 pipeline project

The project context …
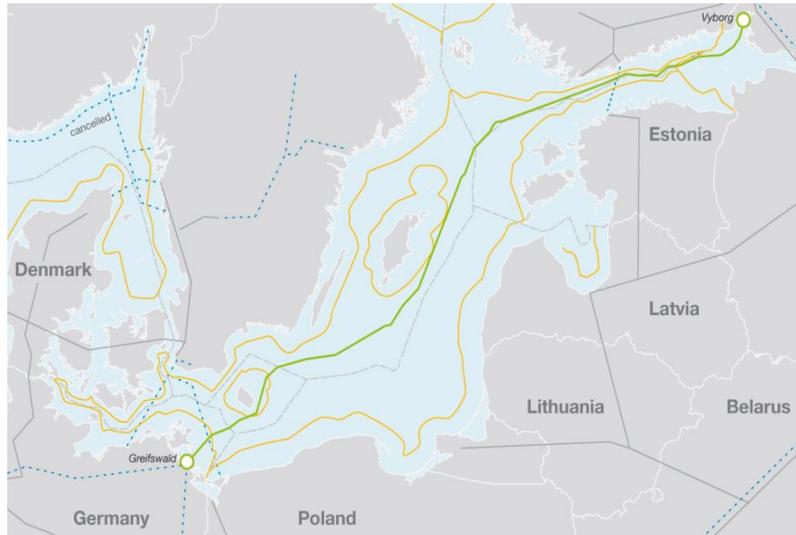
> 1,220 km offshore pipeline, USD 10 bn invest

> 5 shareholders, > 15 subcontractors

> 9 countries affected / jurisdictions involved

> Tight schedule with SOC in 2010

… and our integrated project mgmt.

COMPREHENSIVE PROGRAM MANAGEMENT

In-house employees supported by Roland Berger

TECHNICAL	ENVIRON-MENTAL	LEGAL/REGULATORY	FINANCIAL	COMMU-NICATION
Engineer/Technician	EIA-experts	Lawyers	Economists	Communi-cation experts

Subcontractors (examples)

> Lahmeyer > Impac > …	> ERM > Rambøll > IfaÖ > …	> White & Case > Clifford Chance > …		> Hill & Knowlton > …

1. Created a cross-cutting task-force-based program management
2. Implemented RADAR – through forward-oriented reporting and monitoring
3. Systemically matured the risk mgmt. system
4. Made stakeholder engagement a cornerstone of the project
5. Employed world class tools where effective

Let's turn to the discussion now

Do you have any questions?

In case of further questions, Stefan Haid and I are looking forward to get in touch with you

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