



cutting through complexity™

R&D Performance Management

What is in for me to drive the biotech opportunity?

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Reutlingen, December 2015



Agenda

1.

What is R&D Performance Management?

2.

A way of thinking about decisions – rules of the game

3.

Drive the next step in your growth plan

You might ask yourself ...

R&D Performance Management

Only for big pharma?

Only for the science guys?

Only a process or system to buy & install?

Only a consultant service to book?

Why this is of importance to you ...

R&D Performance Management ...

... is a way of thinking about decisions

... integrates know how from various functions

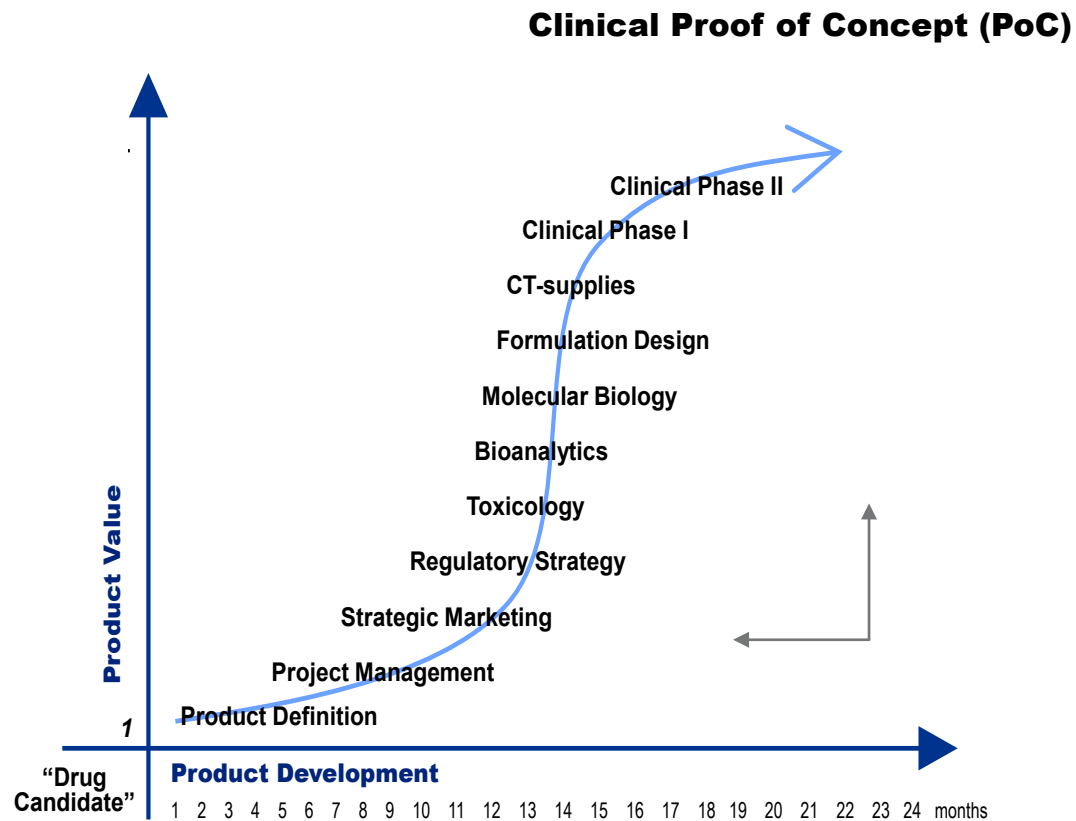
... processes and systems are secondary

... helps to drive the next step in your growth plan

... positive and optimistic about the future

This is what R&D Performance Management aims for ...

Align the winning factors of value creation



To win you need ...

- A strong product idea and a clear strategy
- Excellent and innovative people communicating and working together
- Effectiveness and efficiency of R&D
- Transparency and reliability of your partners and supplier
- Prepare a convincing story for investors

Not to scale

A way of thinking about decisions

Key Elements

Developing control over the new medical business opportunity

Analyzing different indicators (science and finance) ...

... turn them into one picture of the future

Being roughly right is better than precisely wrong ...

Not a numbers game of scale and quantities

A way of thinking about decisions

Common understanding of ...

Forecasting as key risk indicator

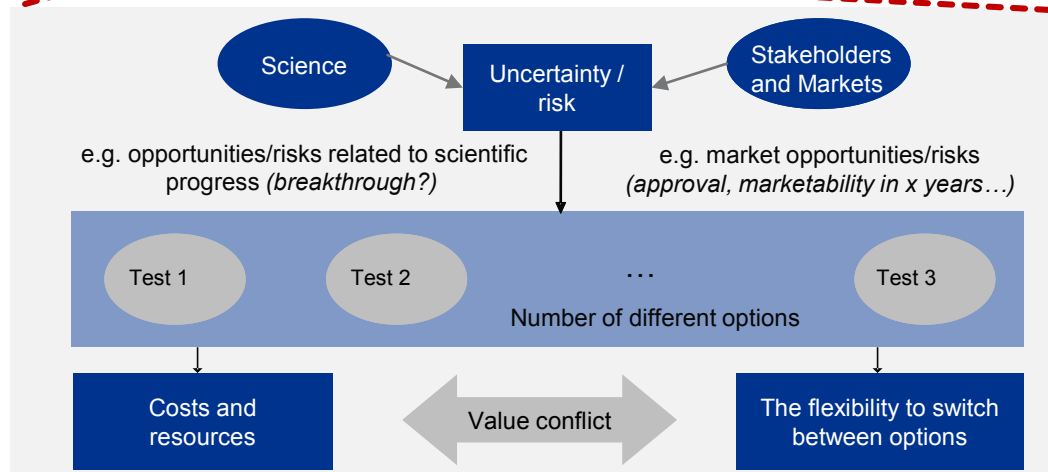
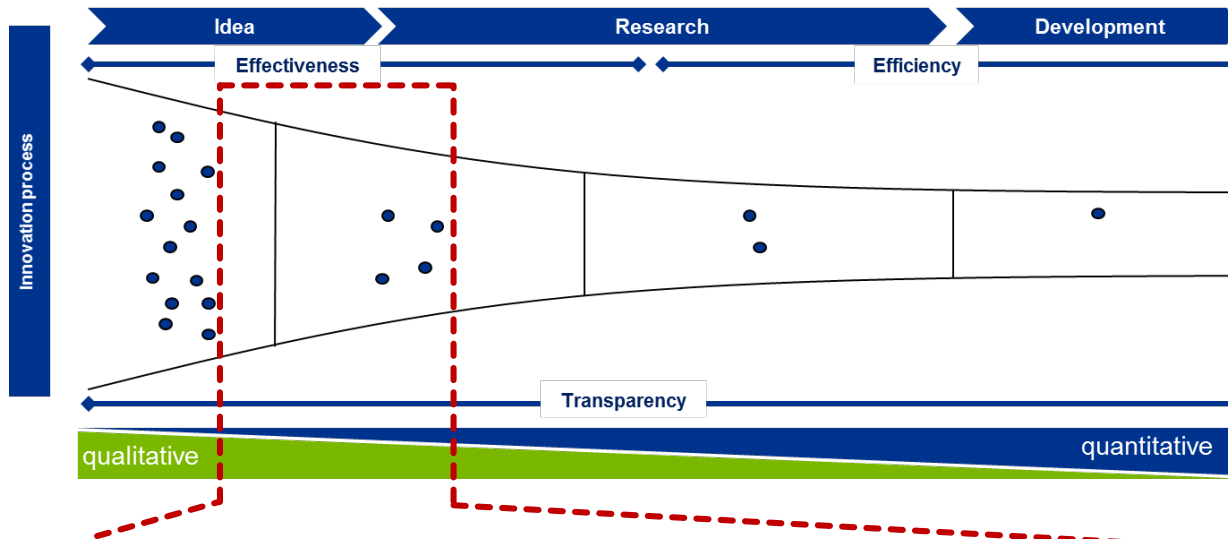
Resources, budgets and deadlines

On project level

Better to be roughly right than precisely wrong

Thresholds when to approve a new reference value (latest approved plan)

Drive the next step in your growth plan



The objective is to...

- ...develop a forward-oriented portfolio
- ...map future project scenarios
- ...create time and awareness such that options can actually be exercised
- ...thereby increase R&D efficiency

Drive the next step in your growth plan

Qualitative decision support (Organizational alignment)

- **Method:** More standardized and better comparable determination of individual project opportunities and risks through Portfolio Management Team
- **Results:** Common understanding of risks and opportunities and agreed on investment prioritization

Program management

Checklists

Expert opinions

Workshop

Decision

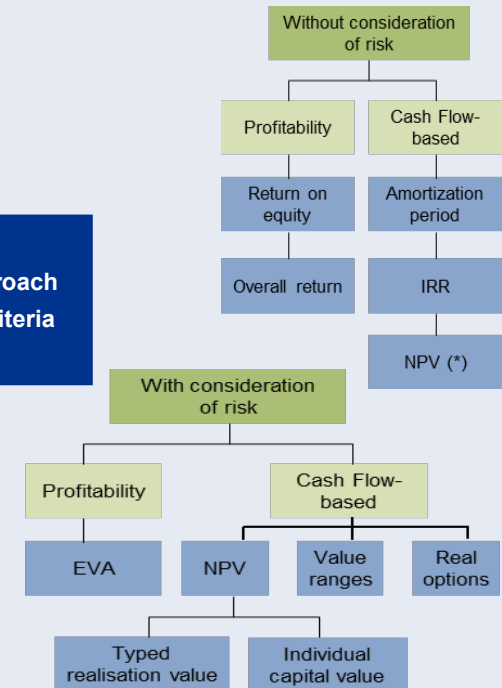
- Make different options comparable
- Fits to innovative and early project character

Portfolio Management Team*

Quantitative decision support (Financial modelling)

- **Method:** Defined and acknowledged procedures oriented on KPIs
- **Results:** Quantitative project assessment

- Clear structure
- Methodical approach
- Standardized criteria
- Financial KPIs



* A Team is not a department

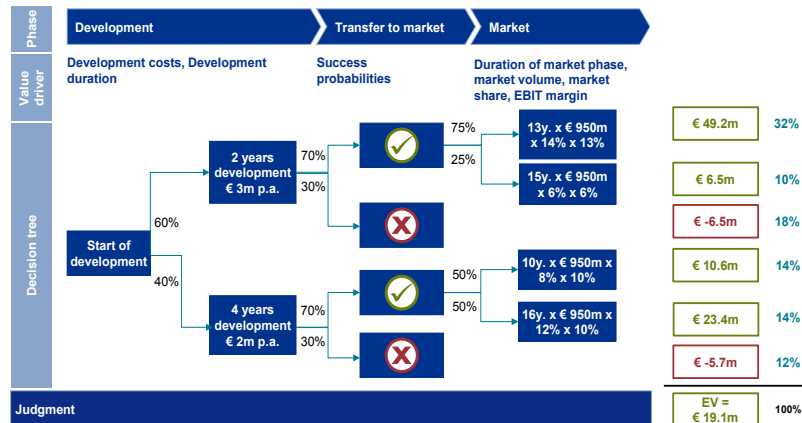
Drive the next step in your growth plan

Portfolio Management Group / Task Team

Objectives	Approach	How	Enablers
<ul style="list-style-type: none">▪ Bring all parties together and ensure commitment to decisions<ul style="list-style-type: none">- No „I understood the decision criteria differently“ situations▪ Understand project uncertainties<ul style="list-style-type: none">- Internal knowledge (historic data, etc.)- External experts (partner, academia, suppliers, investors?)	<ul style="list-style-type: none">▪ Create a simple and transparent framework for decisions▪ Understand options for action and make them comparable▪ Look ahead and identify potential follow-up options▪ Maximize valuable results and minimize negative effects▪ Balance internal risks with external risks	<ul style="list-style-type: none">▪ Work as a team:<ul style="list-style-type: none">- Evaluate data and facilitate its understanding- Create a culture of open and mandatory debate▪ Document the basis for decision making and track its changes (e.g. assumption tracker)	<ul style="list-style-type: none">▪ Write a guidance for project assessment together▪ Make a structured list of questions to identify and assess risks▪ Organize joint workshops with external partners and advisors▪ Think about Medical Affairs as a BioTech

Qualitative decision support through organizational alignment

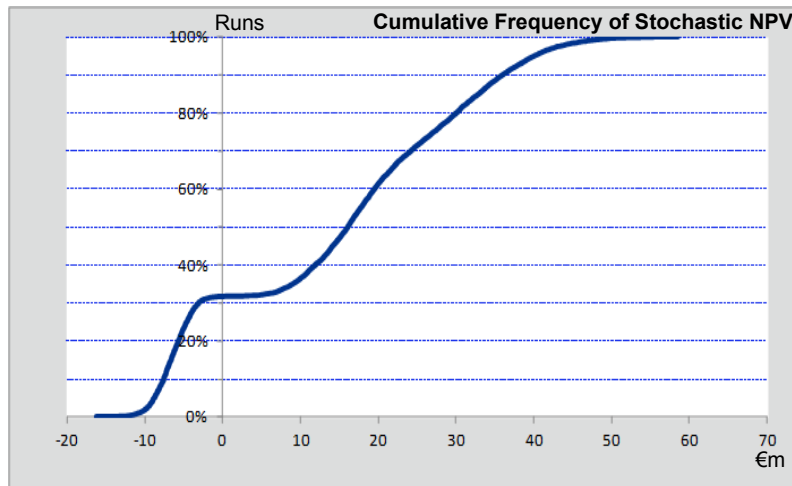
Drive the next step in your growth plan



- Decision tree shows possible outcomes and the respective probabilities
- Probability weighted expected value
- Presentation of simple interdependencies between value drivers
- Limited usefulness in case of complex structure

Expected NPV

- Model is static and gives limited decision relevance
- High focus on financial goals, less information on strategic considerations and resource constraints
- Marked dependency on quantitative estimates and their (potential lack of) accuracy
- Does not look at the balance of the portfolio (high vs. low risk projects, balance across markets/technologies)



Portfolio Analysis (Monte Carlo)

Distribution curve of financial outcome is a result of probabilistic scenario simulation

- In roughly 68% of all runs project yields a positive NPV
- In approx. 43% of all runs project yields a NPV between € 10m and € 30m
- In only 10% of all runs NPV exceeds € 36.0m
- In only 5% (10%) of all runs NPV falls below € -8.8m (€ -7.6m) ~ VaR_{95%} (VaR_{90%})

Finally – what is R&D Performance Management?

R&D Performance Management in Biotechnology

A set of accepted rules to align people towards one direction

Know where you are and reach safely your next objective

Provides a common language for finance and science

Guidance to use the invested money in the most value creating way

Hedge your internal options