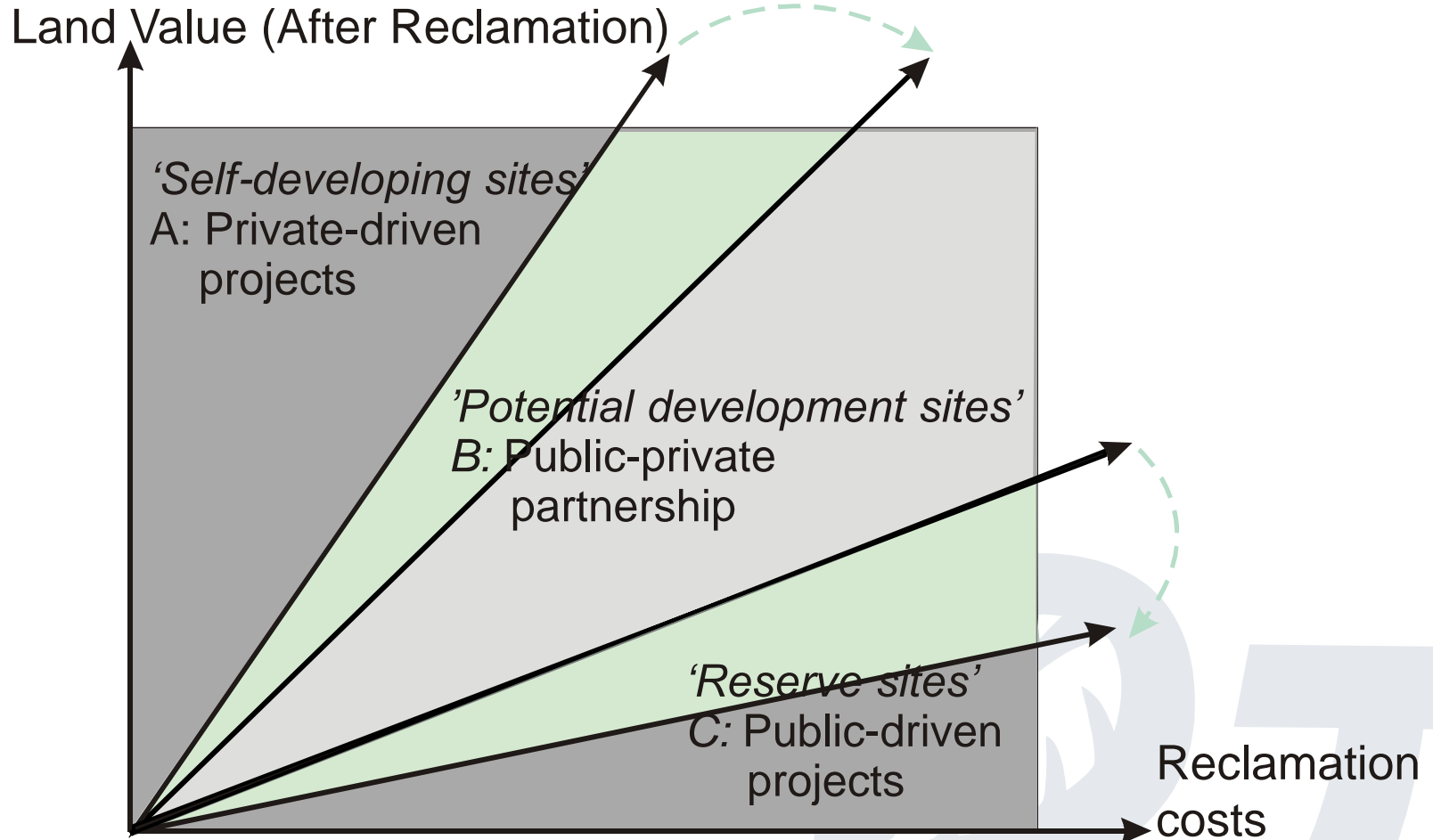# Brownfield Regeneration Management – sustainable and cost-efficient

Dr. Thomas Ertel, et environment and technology

ReSites – Transnational Training on Sustainable Remediation, Bydgoszcz, 10 May 2017

Brownfield Regeneration - an ongoing process

Brownfield creation

Hardcore sites

Brownfield regeneration

Cabernet A-B-C model

Land Value (After Reclamation)

'Self-developing sites'
A: Private-driven
   projects

'Potential development sites'
B: Public-private
   partnership

'Reserve sites'
C: Public-driven
   projects

Reclamation costs
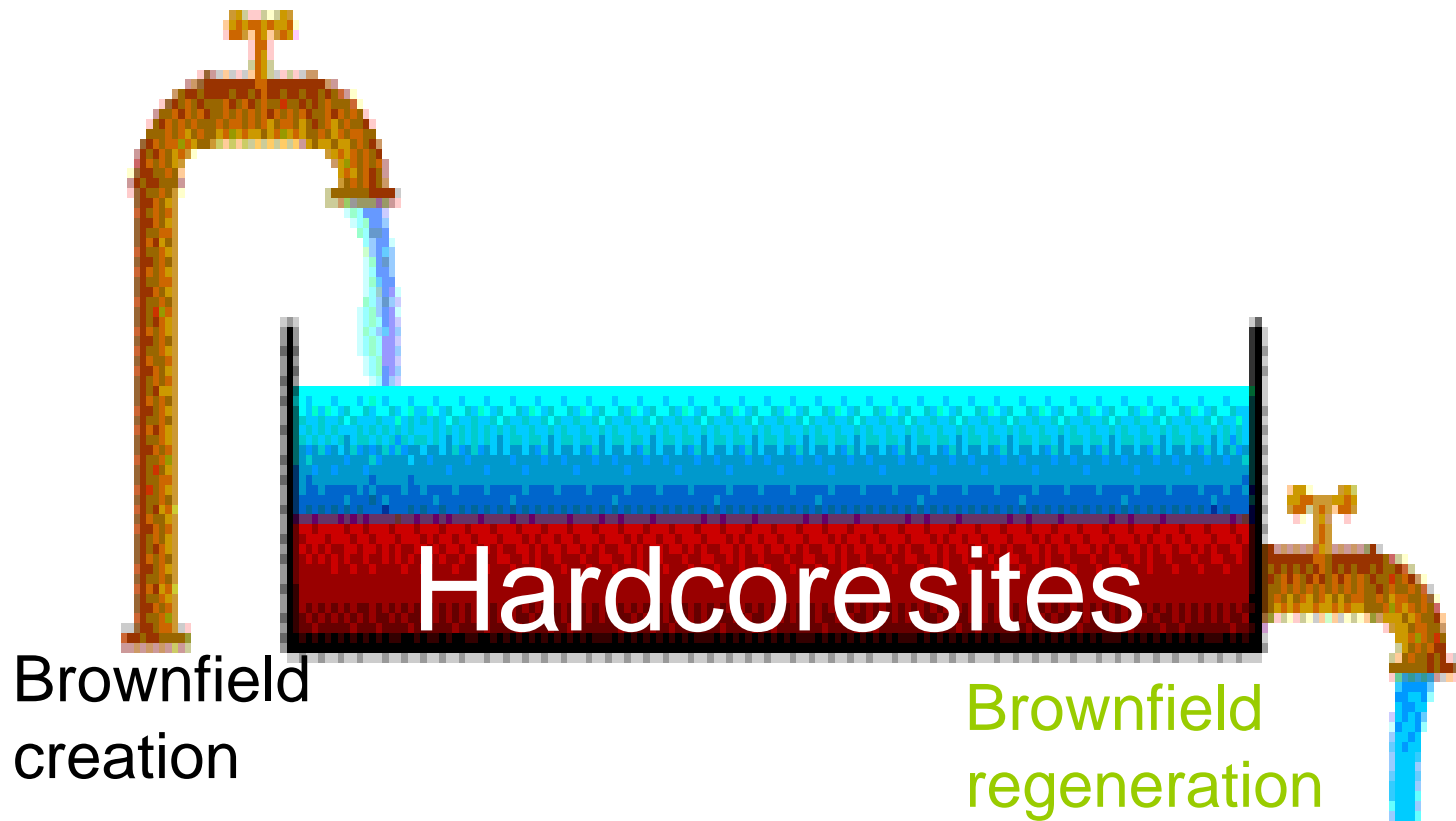
REVIT puzzle

What is obvious:
Brownfield revitalisation
is a long term and
complex process and
a wide range of
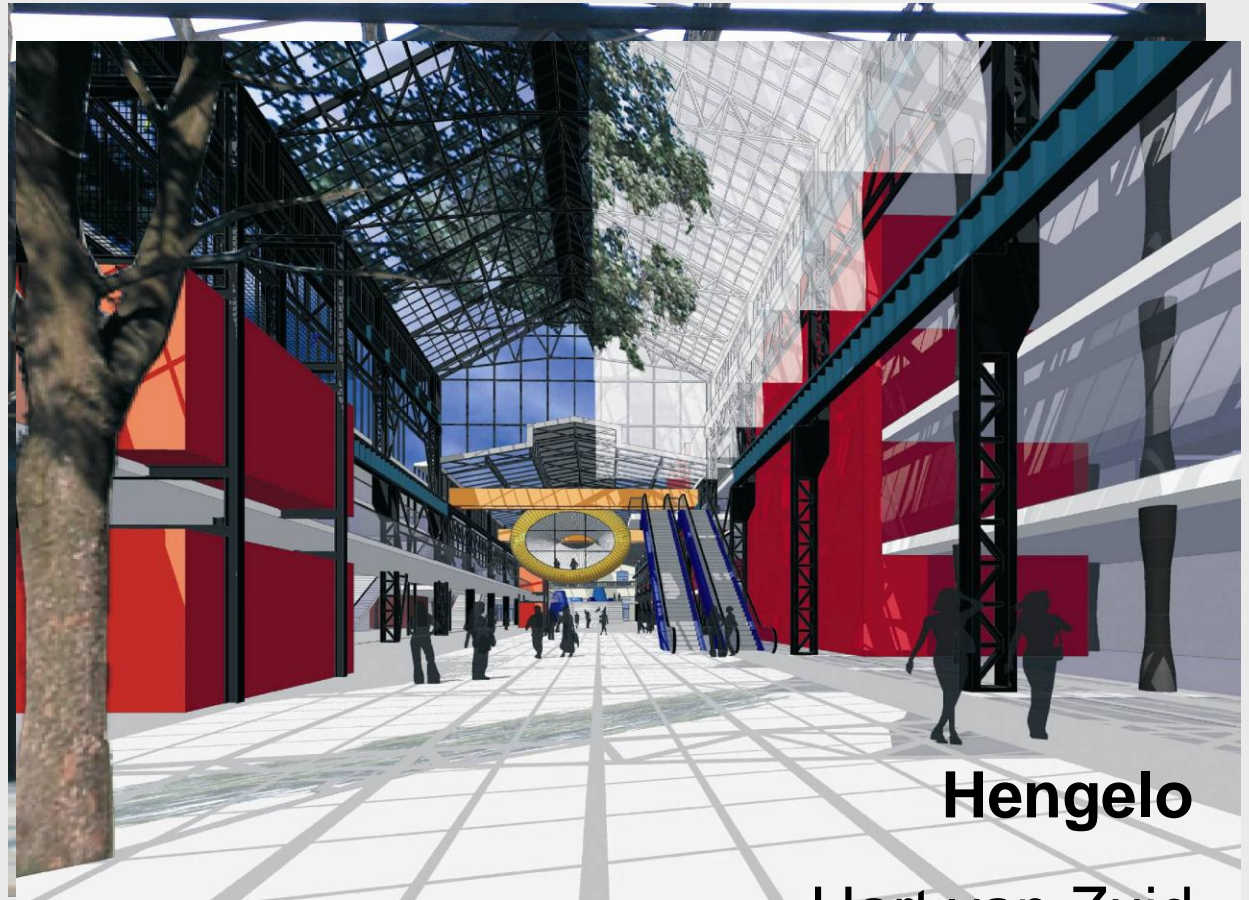professional
disciplines has to be
involved.

What we have learned…..

Prepare the ground – environmental remediation

Industrial
Heritage

Hengelo

Hart van Zuid

What we have learned.....

Stakeholder engagement

What we have learned.....

Financing – a miracle?

PPP

Private Public Partnerships

What we have learned.....

Marketing brownfield sites most important

Gasometer Vienna, AUSTRIA

MARKETING

Managing the process!!!

CABERNET's "Football" Conceptual Model.

The Most Significant Driver Drags The Football Down

7 Spatial Planning Process

5 Community Needs

6 Technical Knowledge

4 Professional Skills

2 Financial Viability

3 Risk & Liabilities

1 Cultural Heritage

CABERNET
www.cabernet.org.uk

Go Back!!

What we have learned.....

We do need a professional brownfield manager, well educated and well situated in the administrative structure of the municipality.
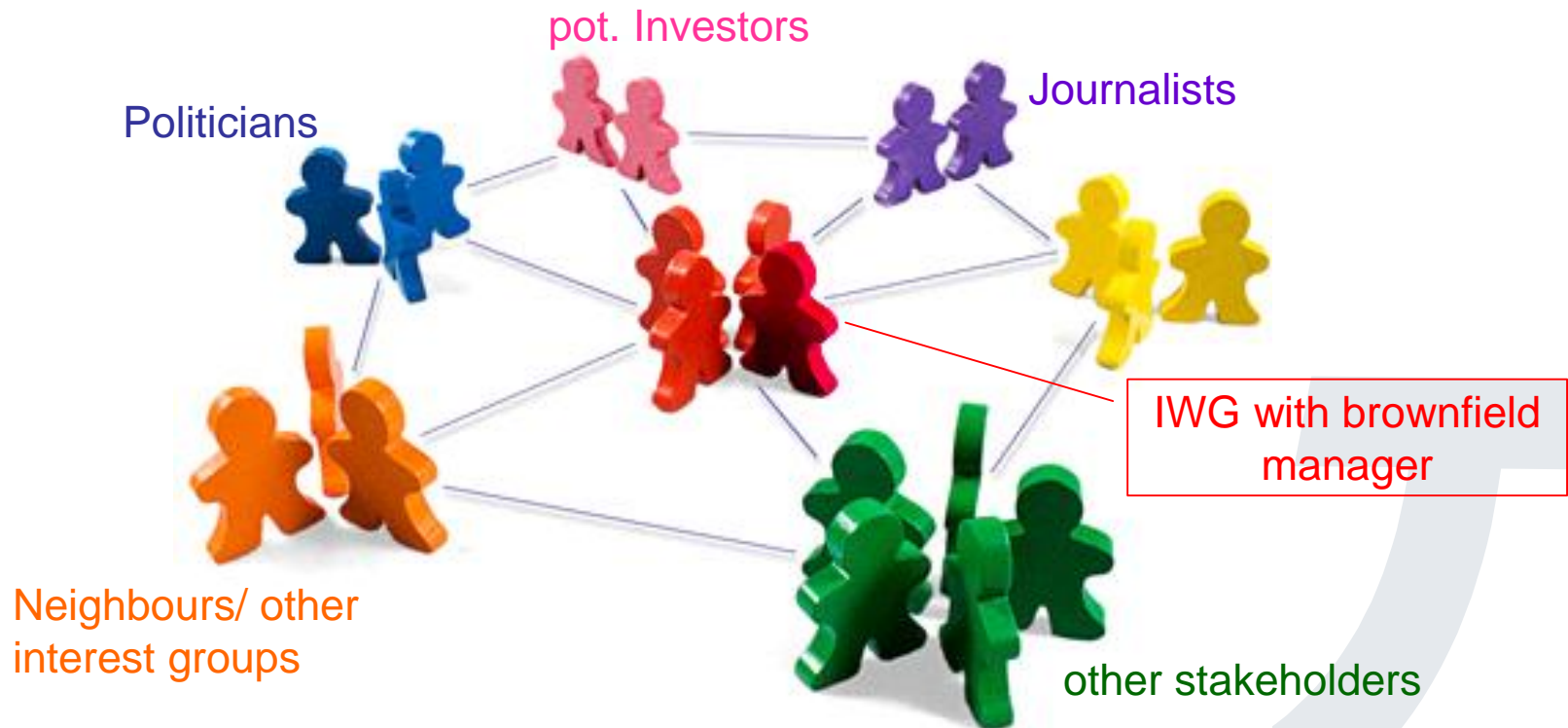
Brownfield Manager - BM
A new professional discipline

- Drafting a detailed job description

- Developing a training program with accompanying training materials

- Compiling effective management tools

- Doing training on the job with selected staff of the partner cities

- Giving recommendations on optimised municipal management structures in course of brownfield redevelopment projects

COBRAMAN

BM's tasks and responsibilities

Tasks	Responsibilities
• Provision of relevant and **well targeted information** for specific groups • Identification and **involvement of** community/neighborhood and other **stakeholders** in redevelopment process	• **"one stop shop"** for internal and external stakeholders (e.g. investors as well as for site owners) • **Initiator and moderator** of the stakeholder engagement process
• **Internal communication** in the municipality, short and direct channels enable short time project results • Set-up and steering a project-specific **interdisciplinary working group**	• **acting as interface** between policy makers, administration and the technical specialists • **coordinating** information flow and **work at any step** in the development process
• **developing** the **visions**/development plans which recognize existing policy, and needs. • **Preparation of** political **decisions**, financial and institutional framework	• **Triggering** the regeneration **process**

BM's tasks and responsibilities

Tasks	Responsibilities
- To facilitate **efficient project delivery** **coordination of** revitalization **process** including time schedule and cost management **quality and risk management**	**Project manager**
Branding – building a **positive image** for the area under regeneration - Marketing – **initiating** target group specific **marketing activities**	**Initiator and coordinator of public relations** and marketing activities

Disciplines to be covered by a BM

Required skills (1)

project management

- General project management
- Conceptual and visionary thinking
- Leadership - strong team player
- Organizational skills

environmental/ technical know-how

- Civil and construction engineering
- Environmental engineering, geotechnics
- Health and safety measures

Required skills (2)

real estate economics

- Basic knowledge in project financing and calculation
- Market mechanisms and trends
- Life cycle considerations of real estate investments

legal aspects

- Basic knowledge in all related legal areas
- Municipal administration and structures
- Understanding of decision making processes and a sense of political feasibilities

Required skills (3)
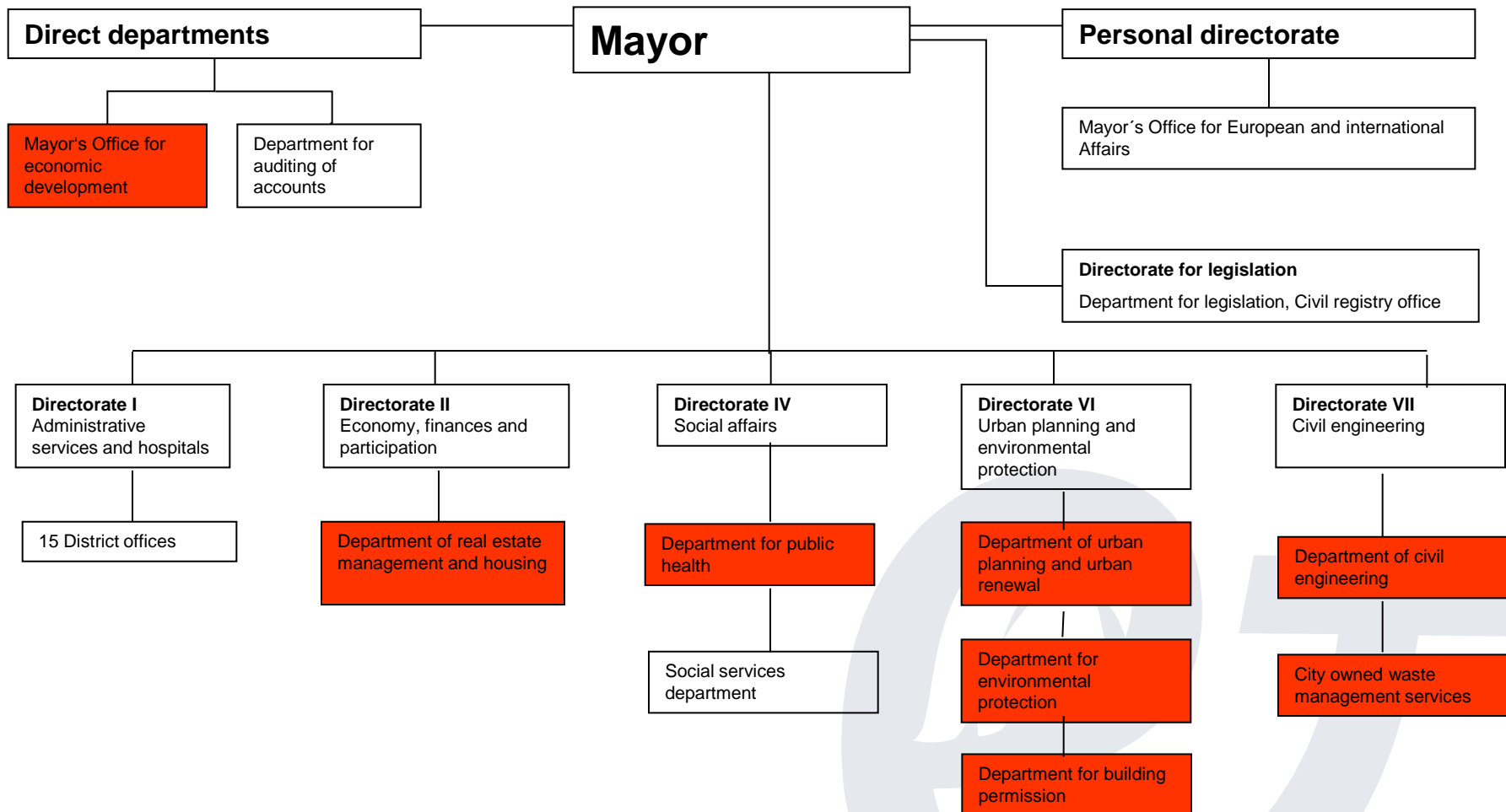
planning competences

- Landscape and urban planning
- Architecture
- Socio-economic dimension of urban development

communication

- Communication management
- Moderation, negotiation, mediation
- Ability to describe even complex issues in illustrative and simple words - spokesman qualities
- Marketing and campaigning

Typical orga chart of a city

Direct departments

Mayor

Personal directorate

Mayor's Office for economic development

Department for auditing of accounts

Mayor´s Office for European and international Affairs

Directorate for legislation

Department for legislation, Civil registry office

Directorate I
Administrative services and hospitals

Directorate II
Economy, finances and participation

Directorate IV
Social affairs

Directorate VI
Urban planning and environmental protection

Directorate VII
Civil engineering

15 District offices

Department of real estate management and housing

Department for public health

Department of urban planning and urban renewal

Department of civil engineering

Social services department

Department for environmental protection

City owned waste management services

Department for building permission

Typical orga chart of a city

Mayor

Direct departments

- Mayor's Office for economic development
- Department for auditing of accounts

...ectorate

- ...ropean and international
- ...ation, Civil registry office

Directorate I
Administrative services and hospitals

- 15 District offices

Directorate II
Economy, finances and participation

- Department of real estate management and housing

Directorate IV
Social affairs

- Department for health
- Social services department

Directorate VI
Urban planning and environmental protection

- Department of urban planning and urban renewal
- **Brownfield guys**
- Department for building permission

Directorate VII
Civil engineering

- Department of civil engineering
- City owned waste management services

Organisation structure

Ambiguous strategy: integrate the COBRAMAN into existing organisation structures

business development

planning

real estate

Brownfield redevelopment

Stuttgart example

environment

building
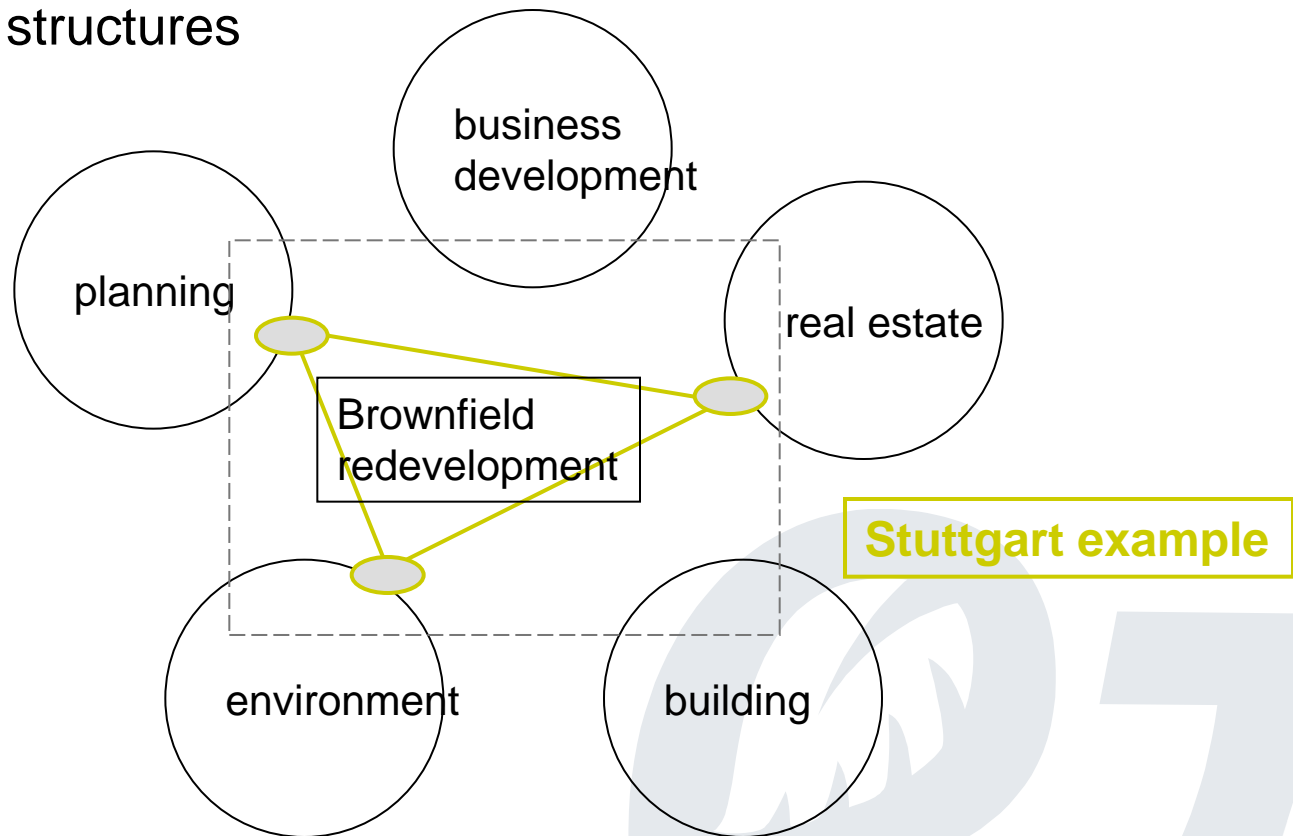
4 Key Management Tools

- the interdisciplinary working group
- the site review
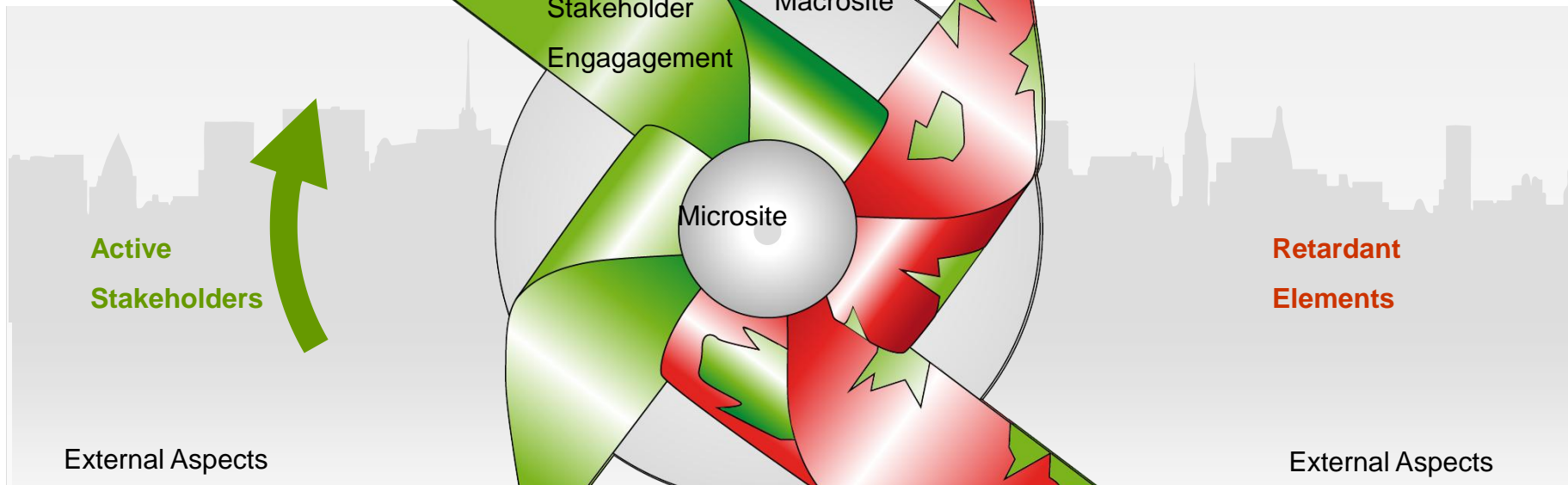- the brownfield SWOT
- the brownfield regeneration management plan

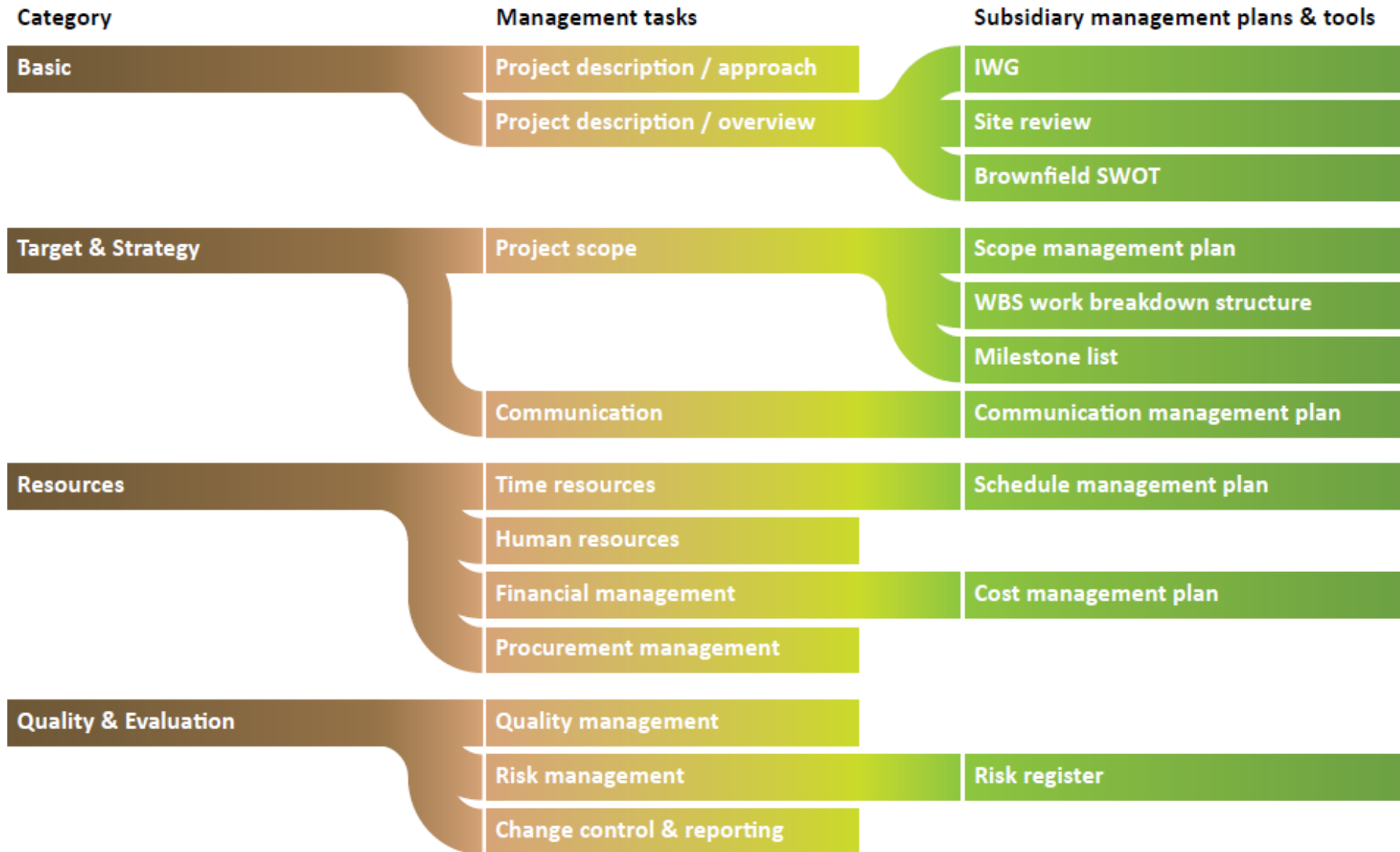# Stakeholders as key drivers

Strengths
Internal Aspects

Weaknesses
Internal Aspects

Stakeholder Engagagement

Macrosite

Microsite

Active Stakeholders

Retardant Elements

External Aspects

External Aspects

Opportunities

Threats

Brownfield Regeneration Management Plan

Category	Management tasks	Subsidiary management plans & tools
Basic	Project description / approach	IWG
	Project description / overview	Site review
		Brownfield SWOT
Target & Strategy	Project scope	Scope management plan
		WBS work breakdown structure
		Milestone list
	Communication	Communication management plan
Resources	Time resources	Schedule management plan
	Human resources	
	Financial management	Cost management plan
	Procurement management	
Quality & Evaluation	Quality management	
	Risk management	Risk register
	Change control & reporting	

Selection of cost-efficient technologies – Operating Windows Concept

Key challenges in technology selection

1. Site specific feasibility

- Exact knowledge about mode of operation, pros and cons of all available technologies

2. Costs

- Remediation design

- Cost risks and main influencing factors

- Time required for remediation

Key challenges in technology selection

3. Fate and transport of contaminants

- Dissolved, adsorbed

- Free phase, residual or mobil

- Precursors

- Redox-Characterisation

4. Heterogeneity affecting storage and

   back diffusion

Operating Windows
(ref. T. Held, Arcadis)

- Compilation of all critical parameters and their ranges of values as a basis for assessment of effectiveness of a remediation activity

- Strict consideration of quantitative methods and quantified boundary conditions

- Consistent decision making tools for design phase instead of trial & error in remediation phase
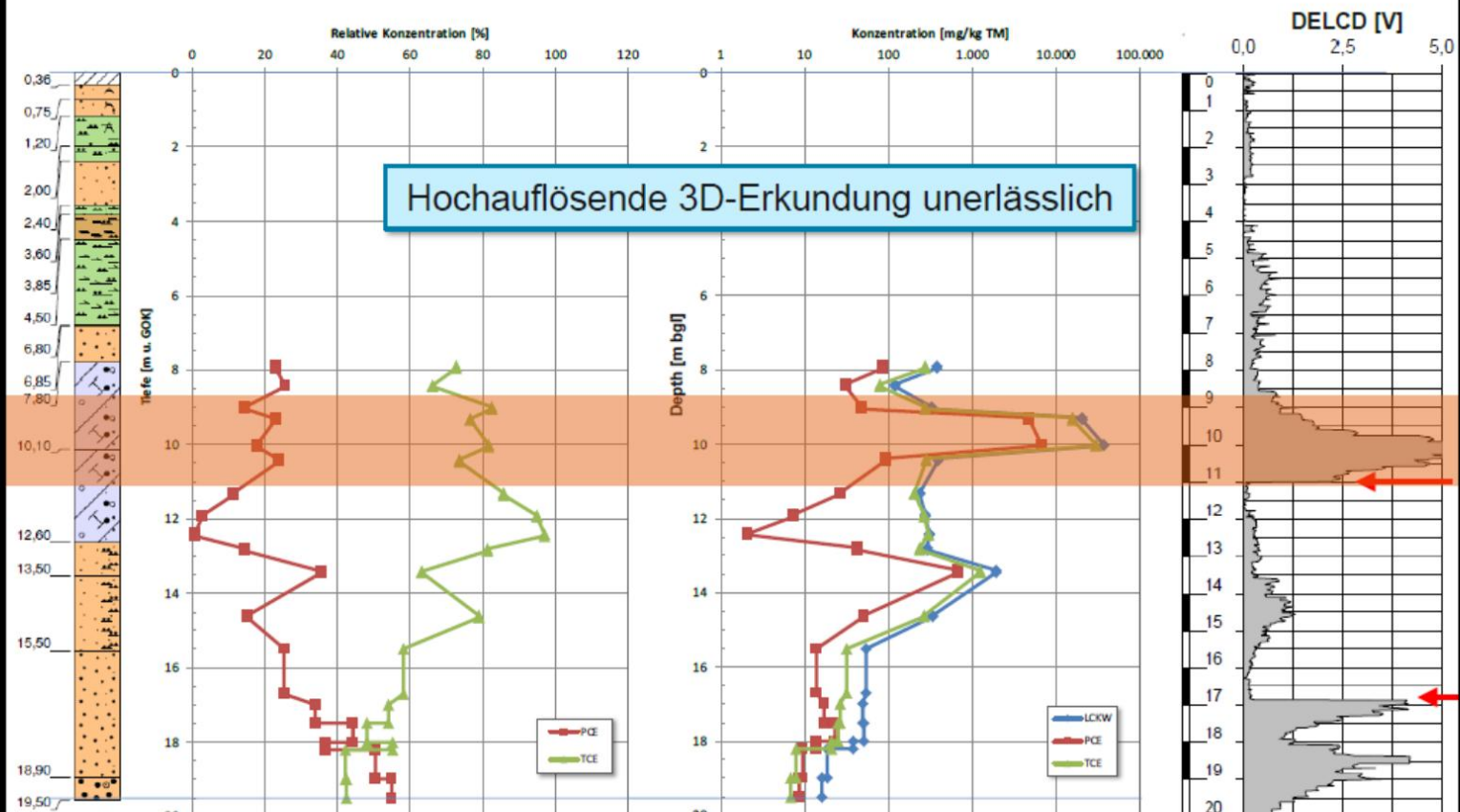
Example – NAPL Migration
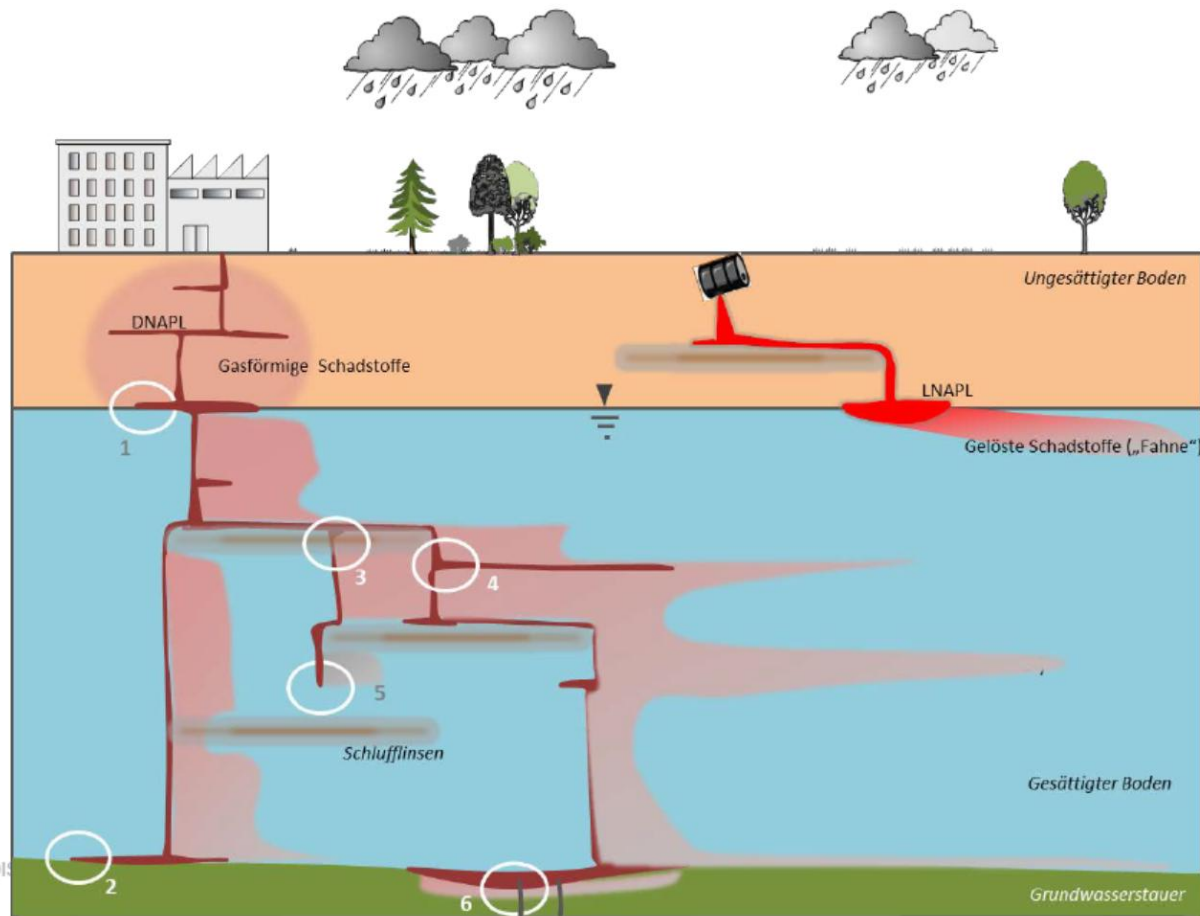
Example – NAPL Migration

Operating Windows

- Data mining of successful remediation projects
- Lab experiments and pre-tests
- Application of conceptual remediation models

Will enable

- Knowledge based selection of technologies
- Optimised prognosis of effectiveness
- Reduced costs with more reliable etimations

But do require

- More quantitative characterisation results

= > a new generation in site characterisation