

Intellectual Property Valuation at the Hungarian Patent Office

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Technology valuation pilot case study

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Methodology issues:

What exactly is the technology to be valued?

What is the reason for the valuation?

What is the date of the valuation?

Who is conducting the valuation?

Who is the valuation for?

What exactly is the technology to be valued?



2006 Hungarian Patent application:

Transgenic animal with increased immunoglobulin level and preparation thereof

Produces larger quantity of blood products in less time than normal animals

Therefore, blood products are more cost effective to produce

IP is a patentable technology with clear boundaries

What is the reason for the valuation?

- Facilitate management decision making
(a means to initiate dialogue... Should we invest in the technology? Is the technology in line with our overall strategy? What are the uncertainties related to the technology? What uncertain information is there? Etc.)
- Fundraising for further development and commercialisation
(attracting financing...investors will be investing in the IP...)
- Possible licence-out of technology
(possible licence partners can see the value of the technology)

What is the date of the valuation?

- January 1st 2007

Who is conducting the valuation?

- IP valuation working group at the Hungarian Patent office
- ...together with external partners

Who is the valuation for?

Commissioned by exclusive right-holder
(a recently formed spin-off company)

For target audience:

- Management team
- Potential investors
- Potential licensees
- Potential R+D partners
- Potential commercialisation partners

Methodology toolbox used:

qualitative analysis tool

Analysis of technology based on factors which influence it's value.

= Value indicator based method

quantitative assessment tool

Assessment of the monetary value of technology

= Discounted Cash Flow (DCF) method

qualitative analysis tool

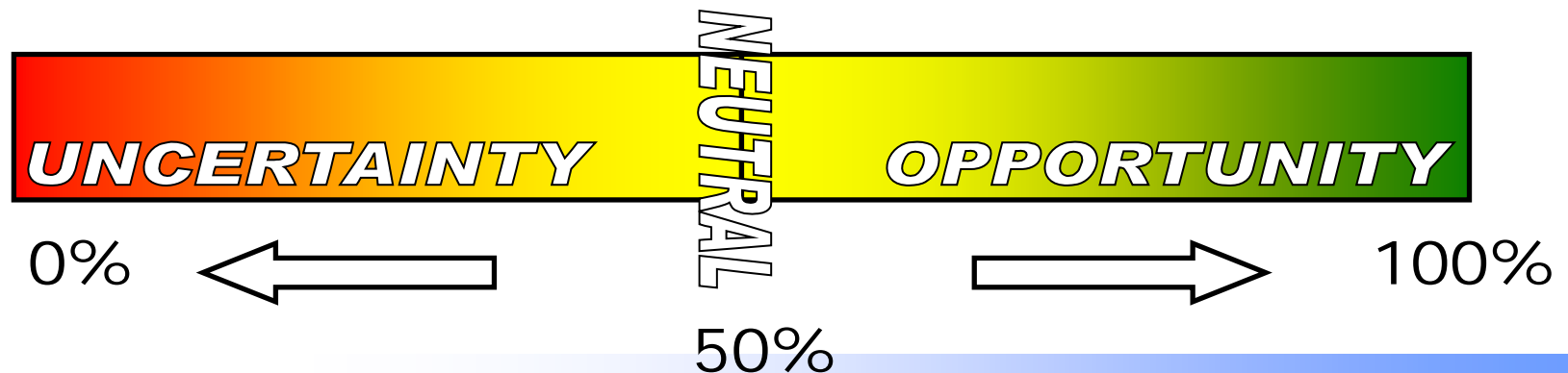
= Value indicator based method

- *Gives an insight into many of the independent and interdependent factors that can affect the value of the technology*
- *There is a strong positive or negative relationship between each of these factors and the value of the technology.*

- **approx. 50** value indicators identified in **5** categories
- Each indicator shows a factor that can affect the value of the tech.
- Value indicators included in a questionnaire
- Experts in working group interviewed

Answers from experts (members of the working group)

- Present status of factor/indicator
- Uncertainties related to factor /indicator
- Opportunities related to factor /indicator
- Future steps related to factor /indicator
- Uncertainty / Opportunity (%)



Category B: Technology/Development factors

Indicator B2:

Technical superiority over substitute technology

■ Present status of factor

The final product (blood product) is not itself new and the technology has not altered the quality in any way. Ordinary non-transgenic antibody producing animals are not new. However,

■ Uncertainties related to factor

The uniqueness of the technology depends on the amount of boold product produced by the transgenic animal. There are also other ways to produce.....

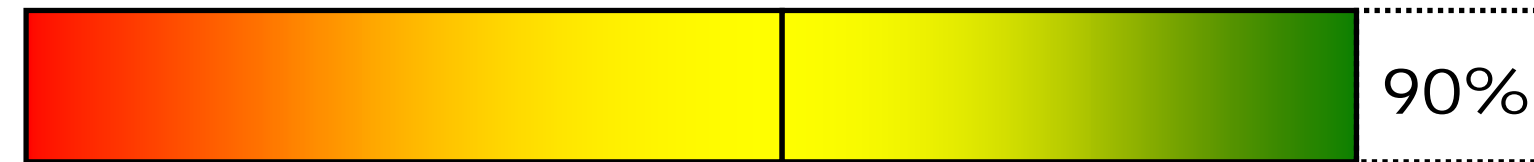
■ Opportunities related to factor

This technology represents a significant innovative advancement compared to existing procedures. The animal.....

■ Future steps related to factor

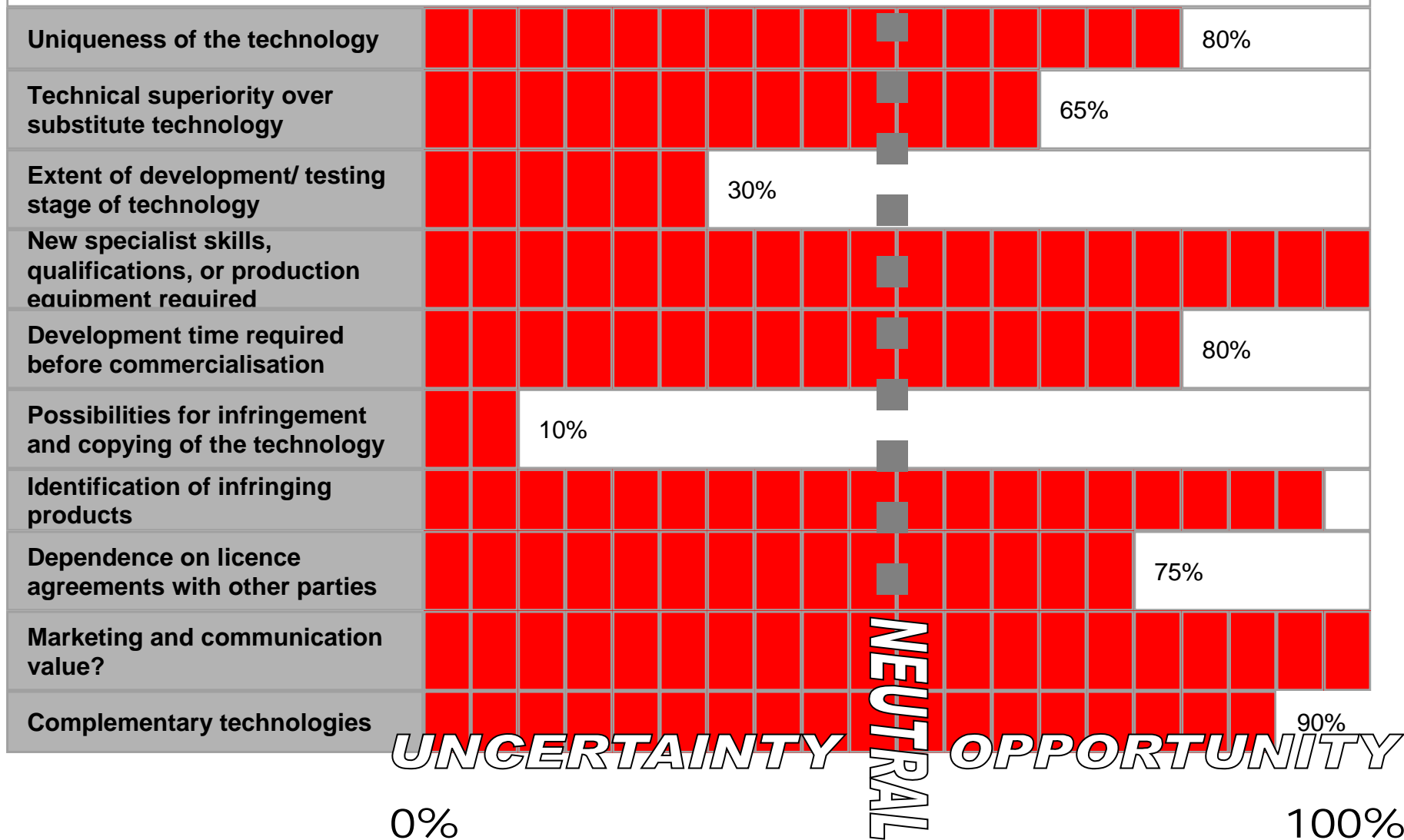
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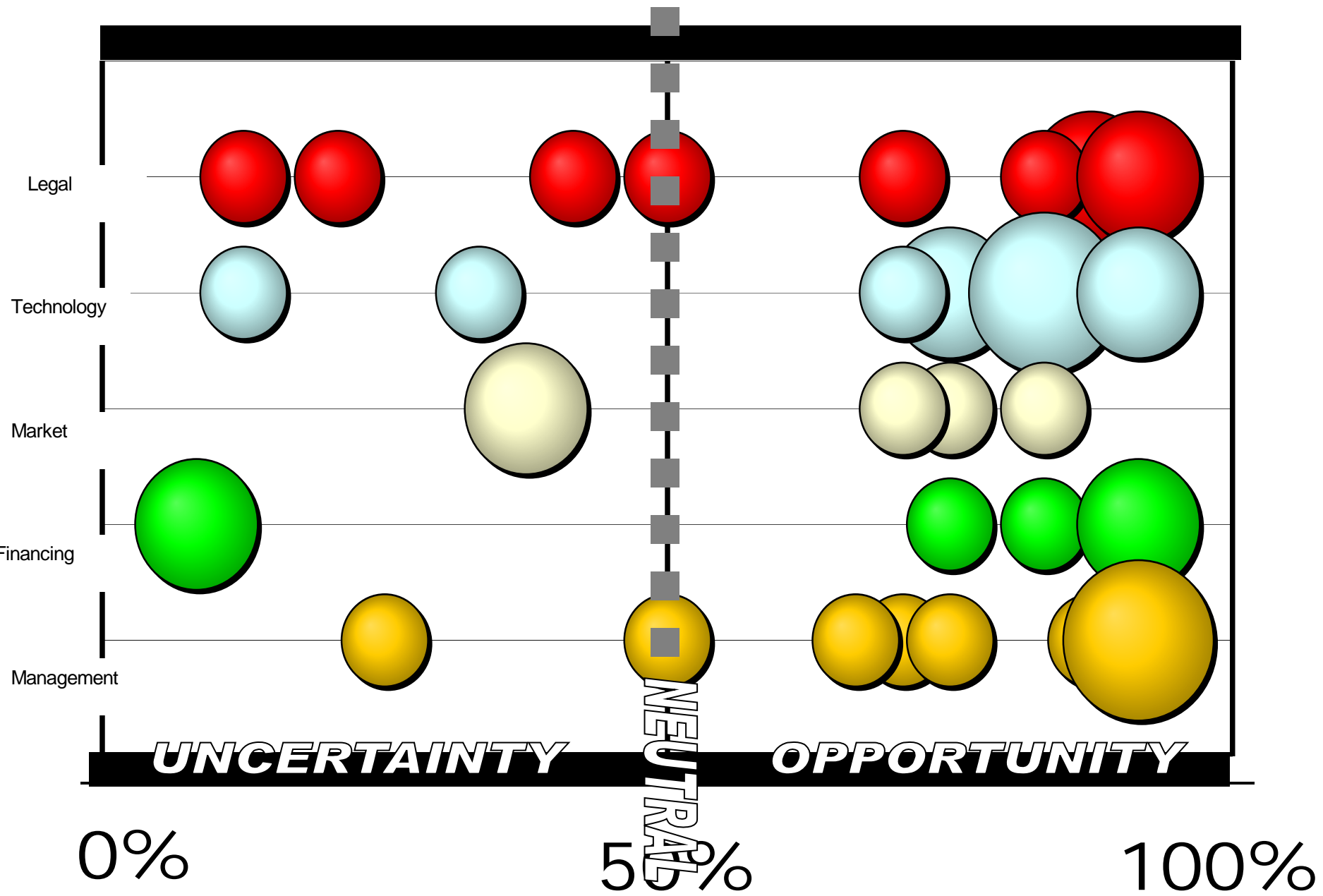
■ Opportunity / Uncertainty estimate (%)

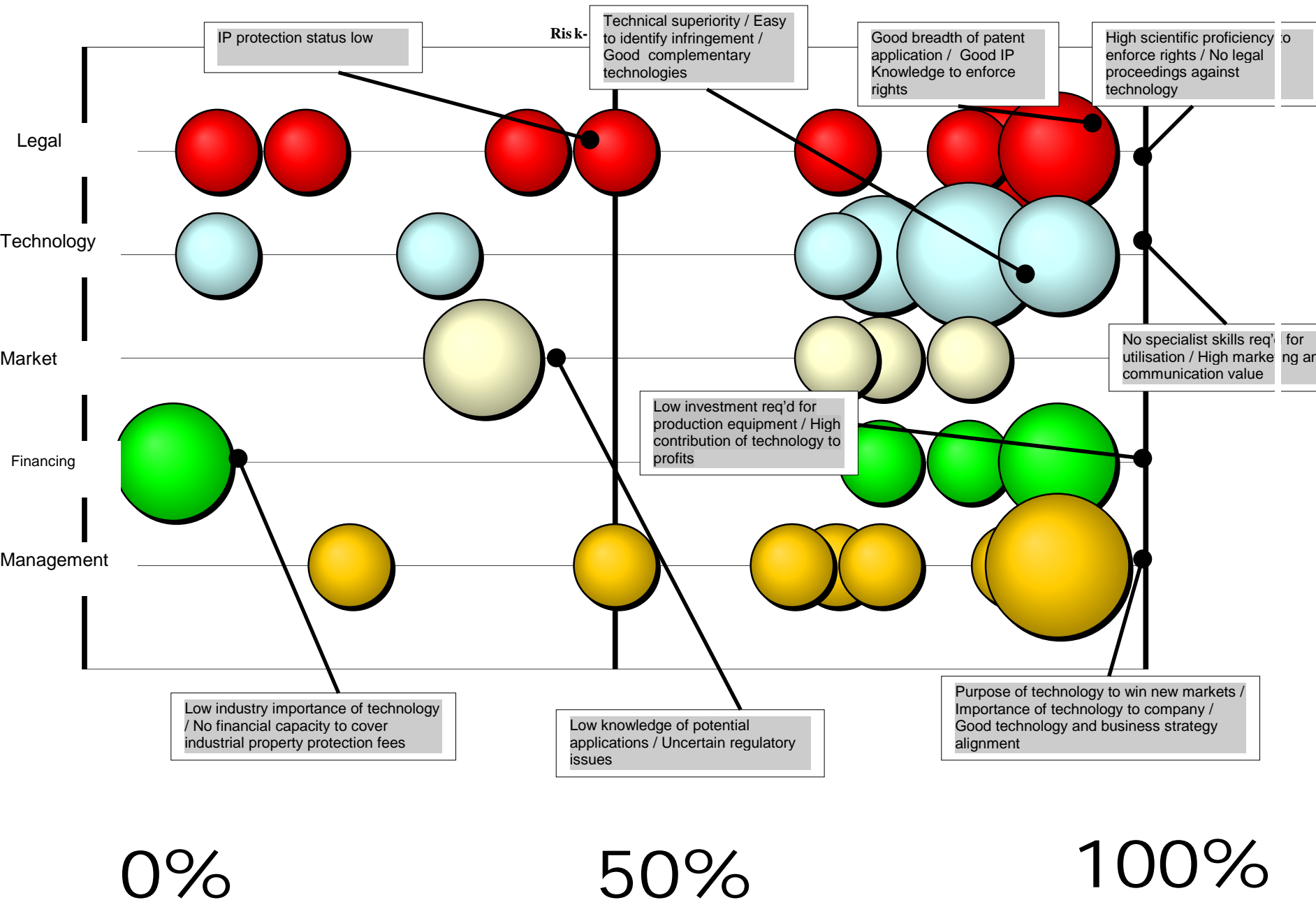


0%

Technology / Development Factors







0%

50%

100%

quantitative assessment tool

= Discounted Cash Flow (DCF)
method

- *Assessment of the technology value through measuring the potential future benefits of the subject technology and discounting these (present value of future benefits)*

Use of Discounted Cash Flow (DCF) formula:

$$\text{DCF} = \text{CF1}/(1+r)^1 + \text{CF2}/(1+r)^2 + \text{CF3}/(1+r)^3 \dots + \text{CFn}/(1+r)^n$$

DCF = cash flow, r= discount rate

Answers from members of the expert working group

Required inputs for formula calculation:

- Expected useful life of technology (forecast period)
- Potential future cash flow from the technology per period
 - Investment / Cost Forecast
(*e.g. outgoing licence royalties, R+D expenditure, materials, facilities, staff, marketing.....*)
 - Revenue Forecast
(*e.g. incoming licence royalties, market data, sale price.....*)
- Discount rate (to discount for time value of money and risk)
 - Understanding of risk factors (**risk-opportunity profile is useful**)
 - Understanding of time factors

Discount rates used in pilot study

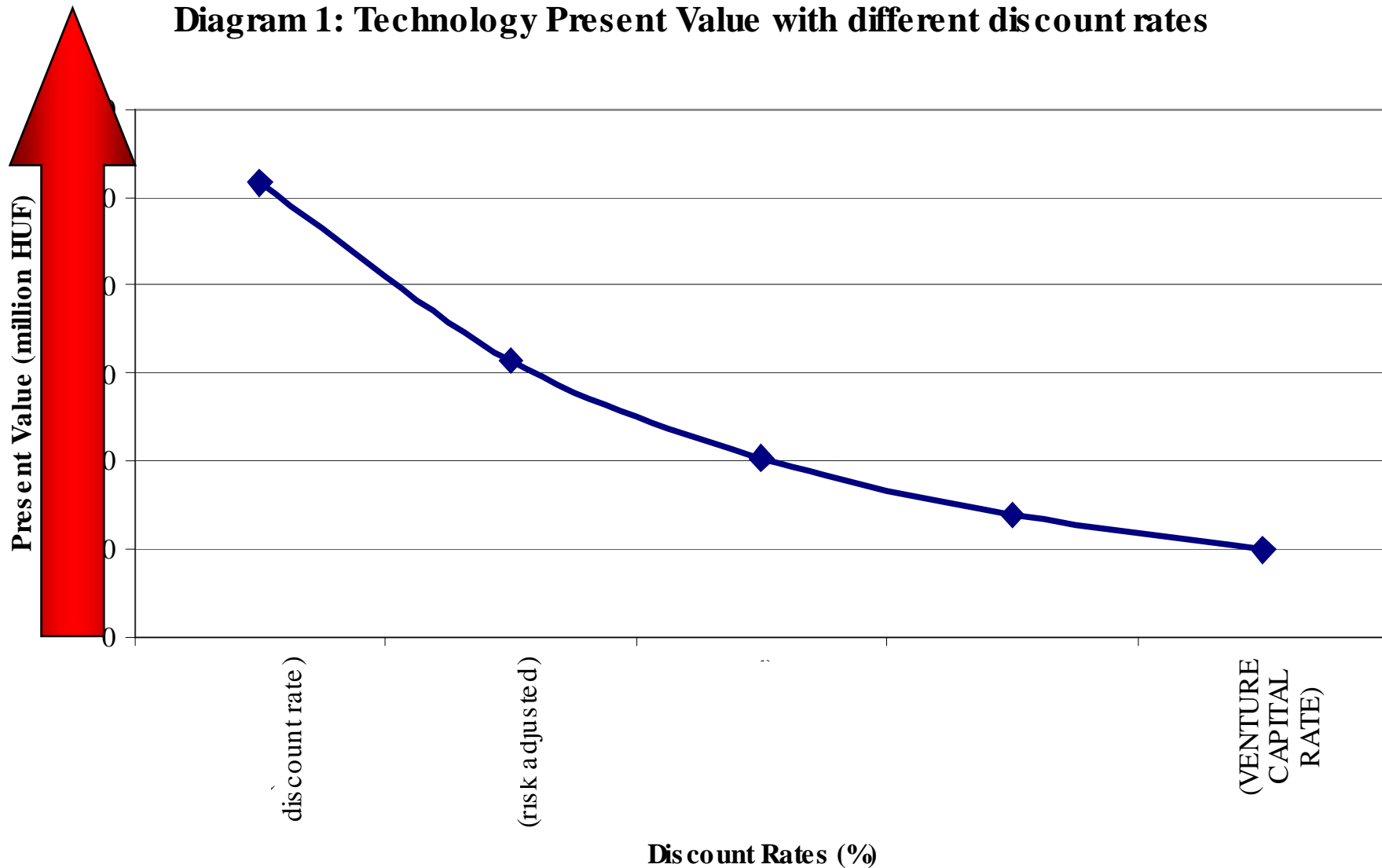
- Risk free discount rate
- Risk adjusted discount rate
- „Venture Capital Rate”



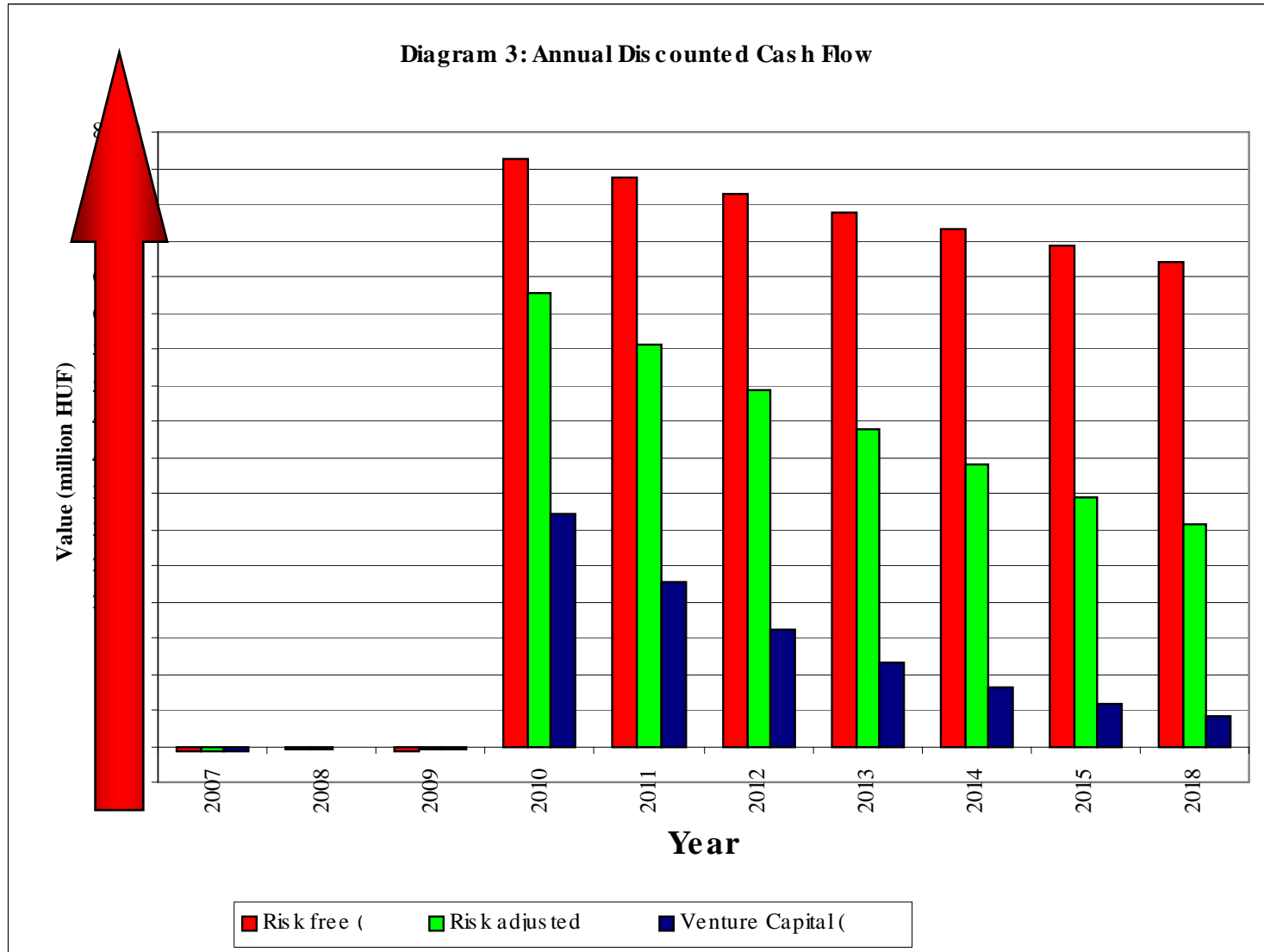
Discount rates for the pilot study where determined by the expert working group on the basis of existing best practice.

Present value of technology using different discount rates

Diagram 1: Technology Present Value with different discount rates



Annual discounted cash flow



qualitative analysis tool

...together with...

quantitative assessment tool

=

**Robust
valuation**



Thank you

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