Biosciences KTN
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An Investment Model for a New Market
The Challenge

- Novel processes in manufacturing
- Innovation must displace established business methods
- Investment needed
- Capital sources constrained
- Private Investment Disconnect
Investors need returns

- Equity in chemical innovation has no return value until a product is in view
- Cost of scale up concentrates risk
- Industry will only bet on certainties

Product (Project) risk financing is required
Invention and P.o.C.

• Proof of Concept in Industrial Biotech
  - Modification of cellular processes understood
  - Replication (fermentation) processes in place
  - Extraction methods developed

• If a bench process produces a desired product proof of *scientific* concept is achieved
  (Compared to healthcare)
Scale up and P.o.C. in Chemical Manufacture

Focus on

• Quantity production
• High Yield
• Comparable Cost
• Quality of product
• Replication of batches / continuity of flow
Investment in Innovation – Product Design

- Novel processes imply potential new molecules
- Novel molecules suggest new physical and chemical characteristics
- New products can alter existing markets and introduce new markets
- Creative product designs possible through new materials and manufacturing processes
Fund Concept

The BioIndustrial Finance Fund (BiFF)

- Project risk financing
- Focusing on value creation
- Application of finance to industrialisation
- Concentrating on scale-up
- Generating products with tangible value
- Participation in long term returns
BioIndustrial Finance Fund Role

Innovation Sources
- Inventors
- Universities
- Companies
- Institutes

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IPR → Development Company → Purchaser/ Licensee

Concept & Proof
Registration & Transfer
Validation & Scale-up

Value increments

Financing

Seed Development Expansion

Innovation Needs

Companies + Governments

Typical costs €4m, time to ‘market’ 2 years per ‘product’*

*Sources: Novozymes/DSM : regarding Specialty Chemicals

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Portfolio Strategy

Early Stage products

Finance Earlier

Finance Later

Later Stage Products

Approximate proportion of fund deployment