Transforming relationships
Unleashing innovation

BioPontis Alliance

# Translating Discoveries Into Products
## A model for innovation driven economic growth

Barbara Handelin, PhD

# The Innovation Gap
# Economic Opportunity

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- Industries that rely on technological or scientific innovation for their products must source it continuously
- Big companies tend to be poor innovators
- Environments that are good sources of creative discovery and invention include academic institutions
- BUT Inventors often lack the essentials for product development beyond initial prototype:
  - Capital
  - Know-how to design/engineer to product definition
  - Effective patenting strategy and/or tactics

# Crossing the Innovation Gap

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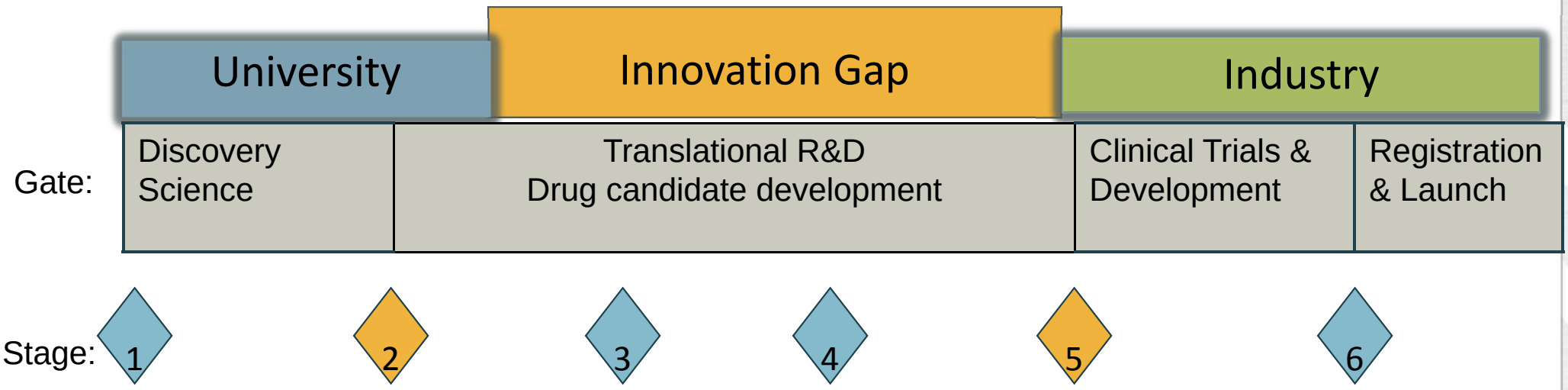
- High failure rate of translating ideas into tangible products
  - Especially in some industries eg pharmaceuticals and other biomedical products
- Inventor  and early investor zeal can lead to skipping important tests and validation
  - Need dispassionate focus on data
- Having multiple ‘shots on goal’ to develop prototypes or candidates for final products is essential
  - Don’t place too much expectation on any one early stage idea

Therefore:  Start Up Companies based on single ideas can be ill advised or unnecessary

# BioPontis Alliance: An example for Bridging the Gap in Pharmaceuticals


- Captures discoveries in academic institutions
- Investment Fund metrics attractive to investors
- Brings seasoned pharmaceutical experience for translational R&D
- Virtual worldwide resources for complex translational R&D
- Partners product development expertise with inventors
- Generates revenue back to source institutions

# BioPontis Alliance - Addressing the Biopharmaceutical Innovation Gap




## Academic research institutions have:

- Discovery research
- Patented science

BUT

- Lack development expertise and capital

## Global pharmaceutical industry needs:

- Discovery science
- Product candidates, not New Co infrastructures
- Candidates built to industry specification and market demand

# Academia ⟶ BioPontis ⟶ Industry
# A novel investment and R&D model

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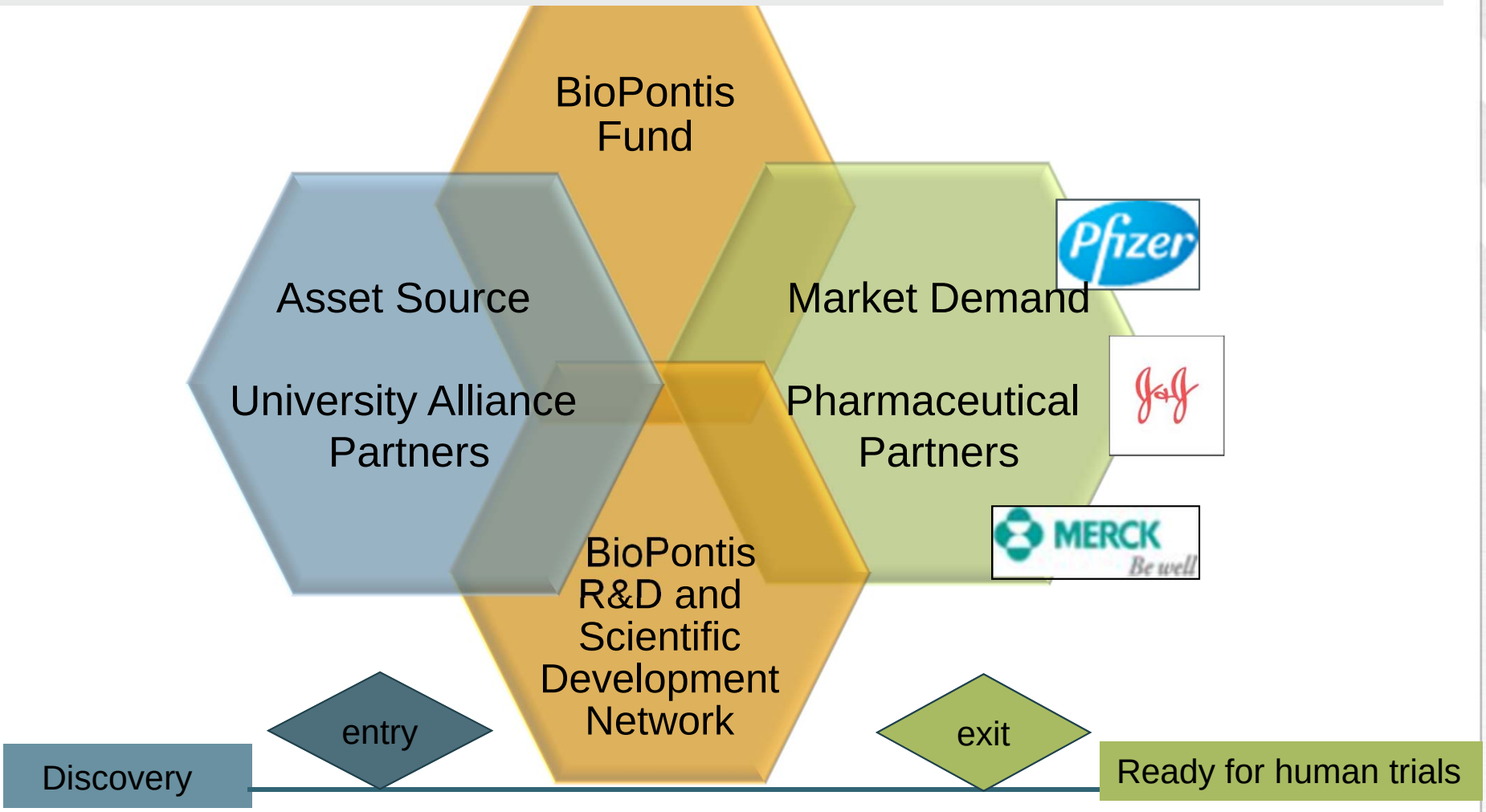
- BioPontis Alliance first to bring a novel investment and development partnership to leverage publically financed innovation to meet market demand



# BioPontis University Alliance Partnerships

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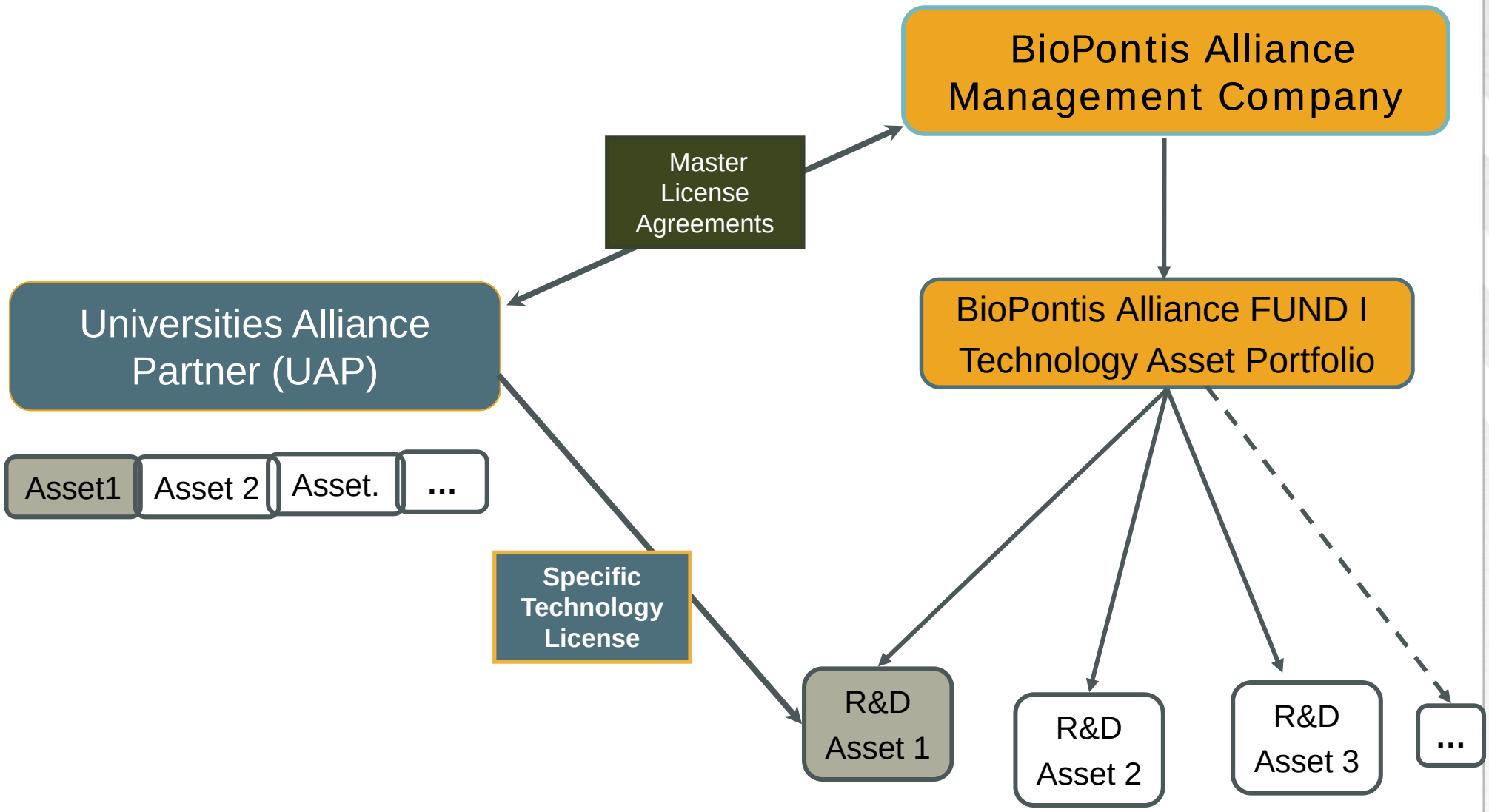
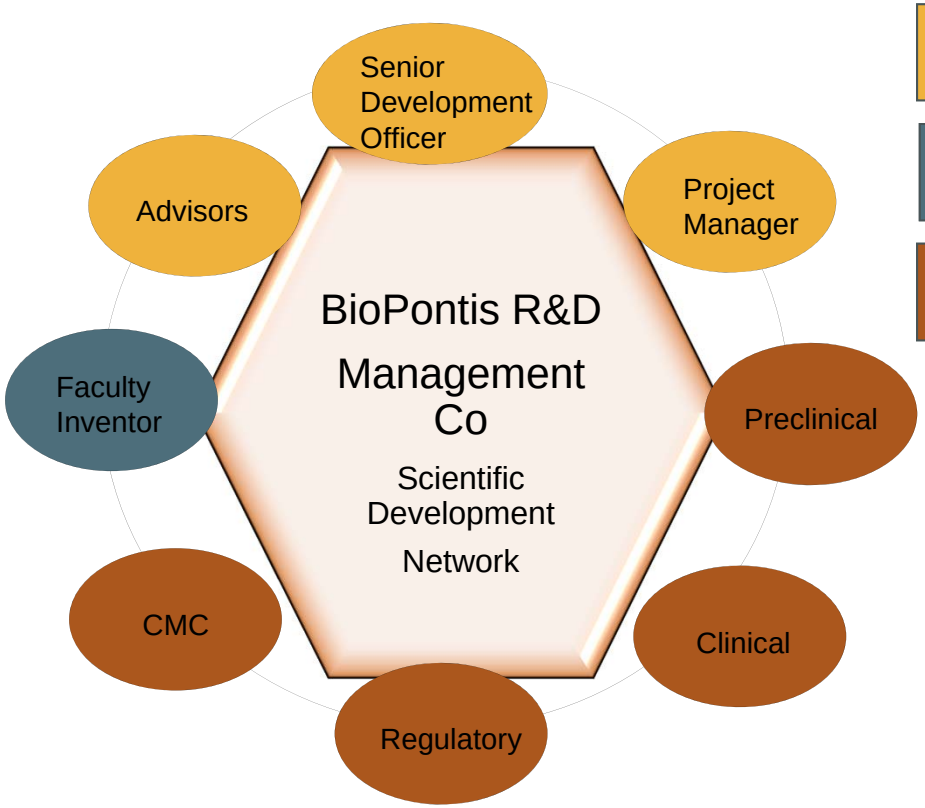
- Columbia University
- New York University
- Memorial Sloan-Kettering
- University of Pennsylvania
- University of Virginia
- University of North Carolina-CH
- University of Florida
- Oregon Health & Sciences University
- University of Kansas
- Thomas Jefferson University
- University of Massachusetts Medical School

BioPontis leverages >$3B annually in public research funding

# University is source of our **asset** portfolio



# Bring right people and resources to each asset program: Virtual development

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University

CROs

Covance, Inc.
Albany Molecular, Inc
Provid Pharmaceuticals
Taconic Farms, Inc
DOCRO (Companion Dx)
Rosa

# University Alliance Partnership (UAP) : Shared economics *and* science

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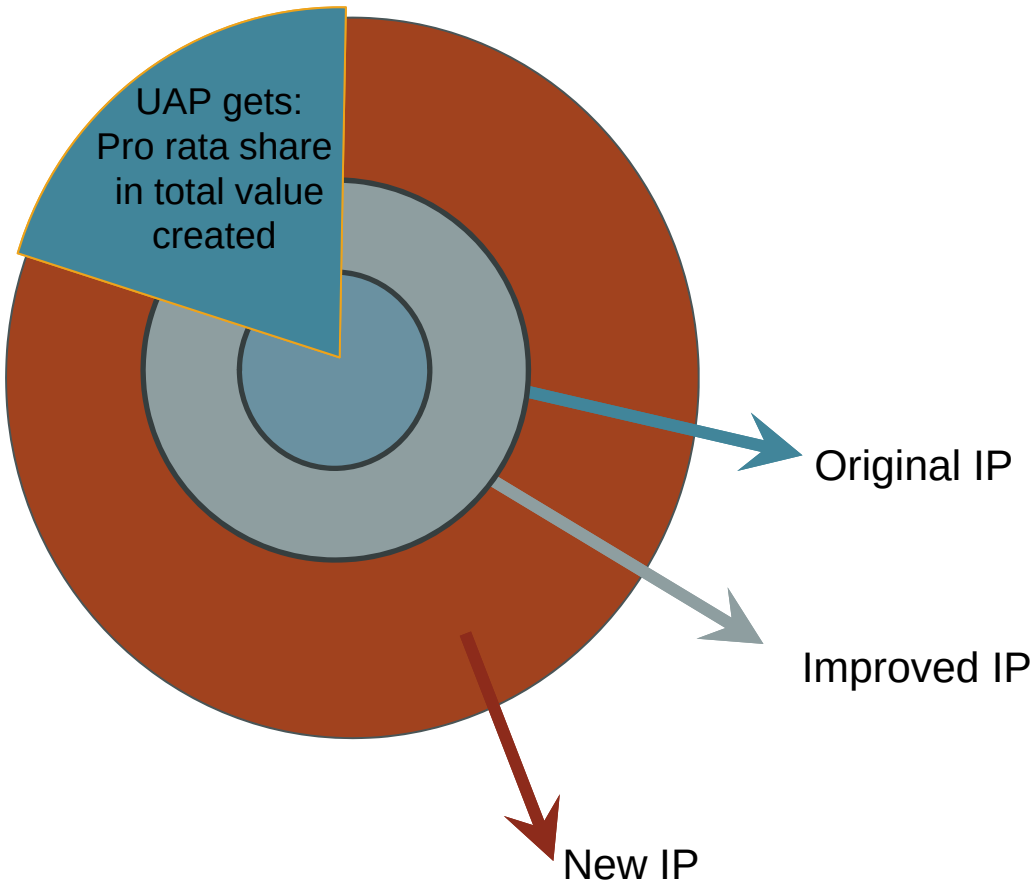
Economic & IP Sharing → Partnered Development



# University/BioPontis economic sharing model

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BioPontis Fund I
$50MM

$$

University Discovery Science
(Source of Innovative Assets)

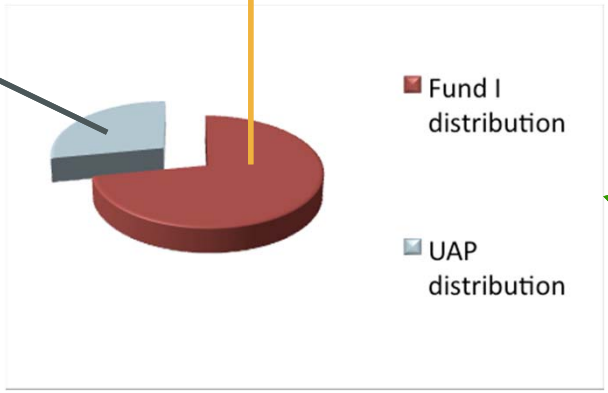
IP License A
No up-fronts

BioPontis
Development Portfolio
**Project A**
LLC

Success

Drug Candidate ready for human trials

Exit License



# BioPontis-Pharma Partnerships: Link BioPontis portfolio to industry specification and high market demand

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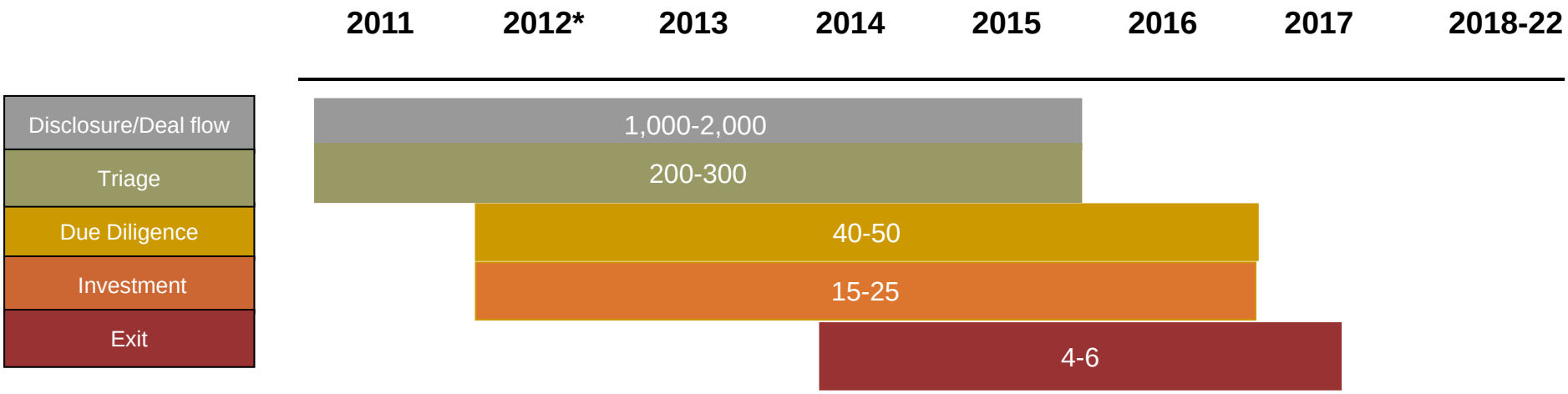
Pharmaceutical Partners provide to BioPontis:

- Confidential insight to Portfolio gaps - aid to asset selection
- Guidance on design of studies and specific methods or models to meet specifications
- Acquiring our product candidates at competitive prices


*"When pharma buys a biotech company we want the products, not the company"* ***Ted Torphy, PhD,*** *Global Head, External Innovation & Business Models, Community of Research Excellence & Advanced Technology* - ***J&J***

# Investment & portfolio projections




Plan for 75% ‘failure’ rate – return to University Alliance Partner
No incentive to continue funding any one asset
No New Co to discontinue
Drug candidates are ready to license into Pharmaceutical industry

# Summary Points

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- Generating economic growth from discovery science and technology can be achieved without a local ‘start up’ hub
- Focus on **products** needed by industry
- Deliver refined product prototypes, not final product
- Utilize worldwide contract R&D resources
- Results:
  - More academic patents become fundable
  - Inventors/discoverers can continue to do what they do best
  - Investment occurs in Kansas and returns come back
  - Jobs are created and sustained locally to manage value in assets
- Consider government/private investment alignment to attract private capital