



Innovative Medicines Initiative



Imaging activities within IMIDIA: a case report from IMI1

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Novo Nordisk A/S



Team Leader for Imaging Team in Novo Nordisk

- Ex vivo imaging of fluorescent peptides in diabetes and obesity
- Not PET or MRI

Work Package Leader in WP4 since June 2012

- Not involved in discussing the IMIDIA call

Involved in the Novo Nordisk part of SGG discussions for IMI2

This talk will represent my own personal views based on the above experiences. These may differ from:

- Company – Company
- Other work packages
- Other IMI programs



2 months of insulin treatment

Beta cell loss/failure



Loss of insulin



Insulin replacement therapy

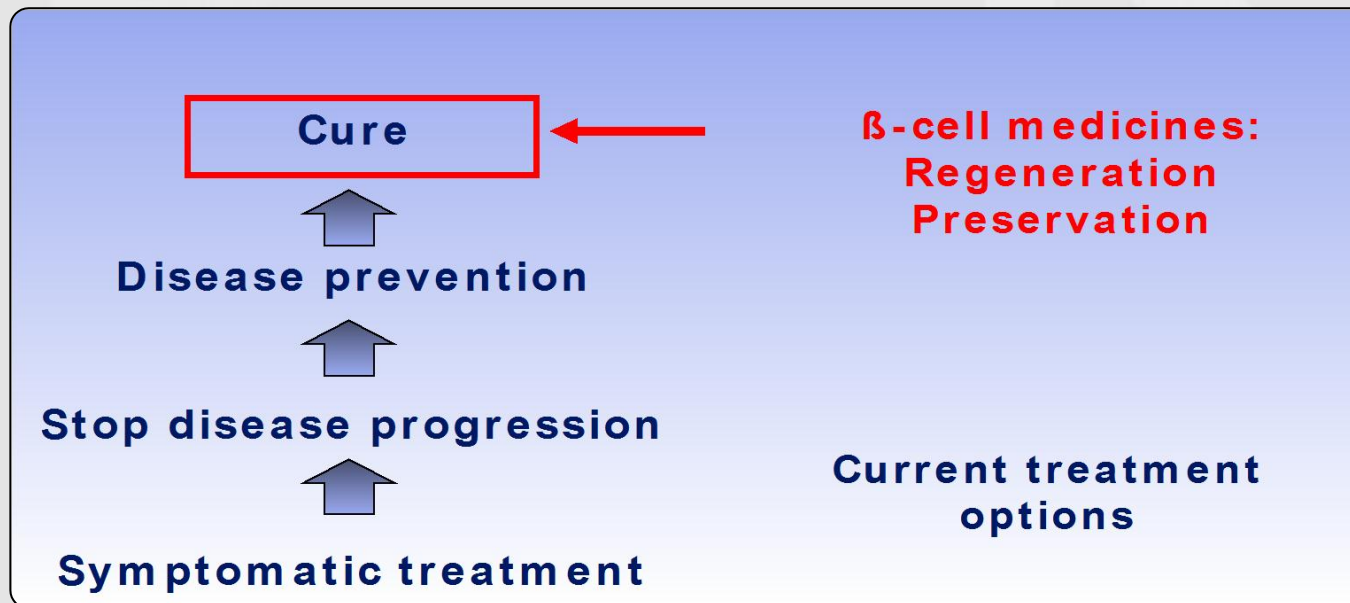
This has been the approach for ~90 years

IMIDIA Objectives:

To monitor specific disease progression and enable improved disease management.

To pave the way for the development of β -cell focused therapies via:

- Better biomarkers to monitor therapy benefit in patients
- Better disease centric in-vitro and in-vivo models
- Better understanding of β -cell biology to enable focused therapeutic approaches





- **Sanofi***
- **Université de Lausanne***
- **Servier***
- AstraZeneca
- Boehringer Ingelheim
- Centre National de la Recherche Scientifique (CNRS, Paris)
- Commissariat à l'Énergie Atomique
- Endocells Sàrl
- Imperial College London
- Institut Suisse de Bioinformatique
- Institut National de la Santé et de la Recherche Médicale (INSERM)
- Eli Lilly
- Medizinische Hochschule Hannover
- Novartis
- Novo Nordisk
- F. Hoffmann-La Roche
- Technische Universität Dresden
- Università di Pisa
- Université Paris Diderot-Paris 7
- Université de Genève
- Vrije Universiteit Brussel

* **Coordinating and managing participants**

FINANCING:

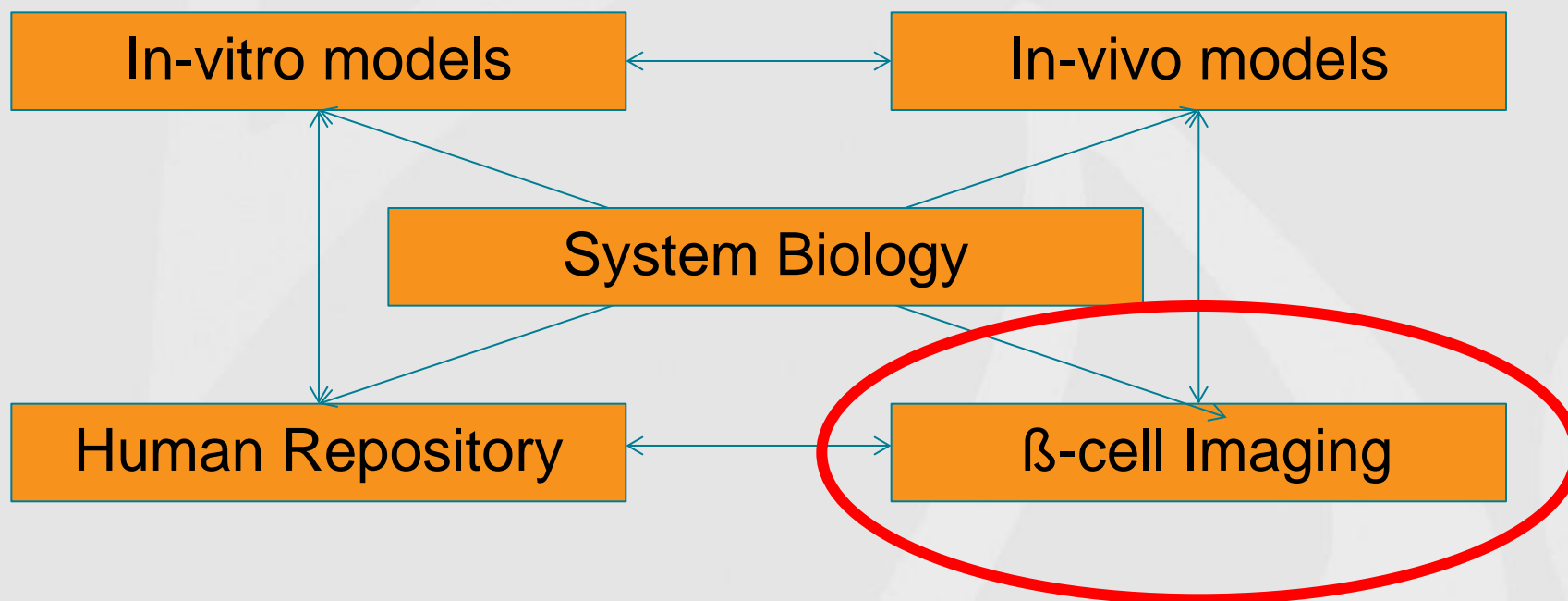
IMI funding:	€ 8.060.760
Academia / Biotech contr.	€ 2.445.506
Pharma Resources (EU+USA)	€ 17.701.800
TOTAL PROJECT COST:	€ 28.208.066

STARTING DATE:

1.2.2010

DURATION:

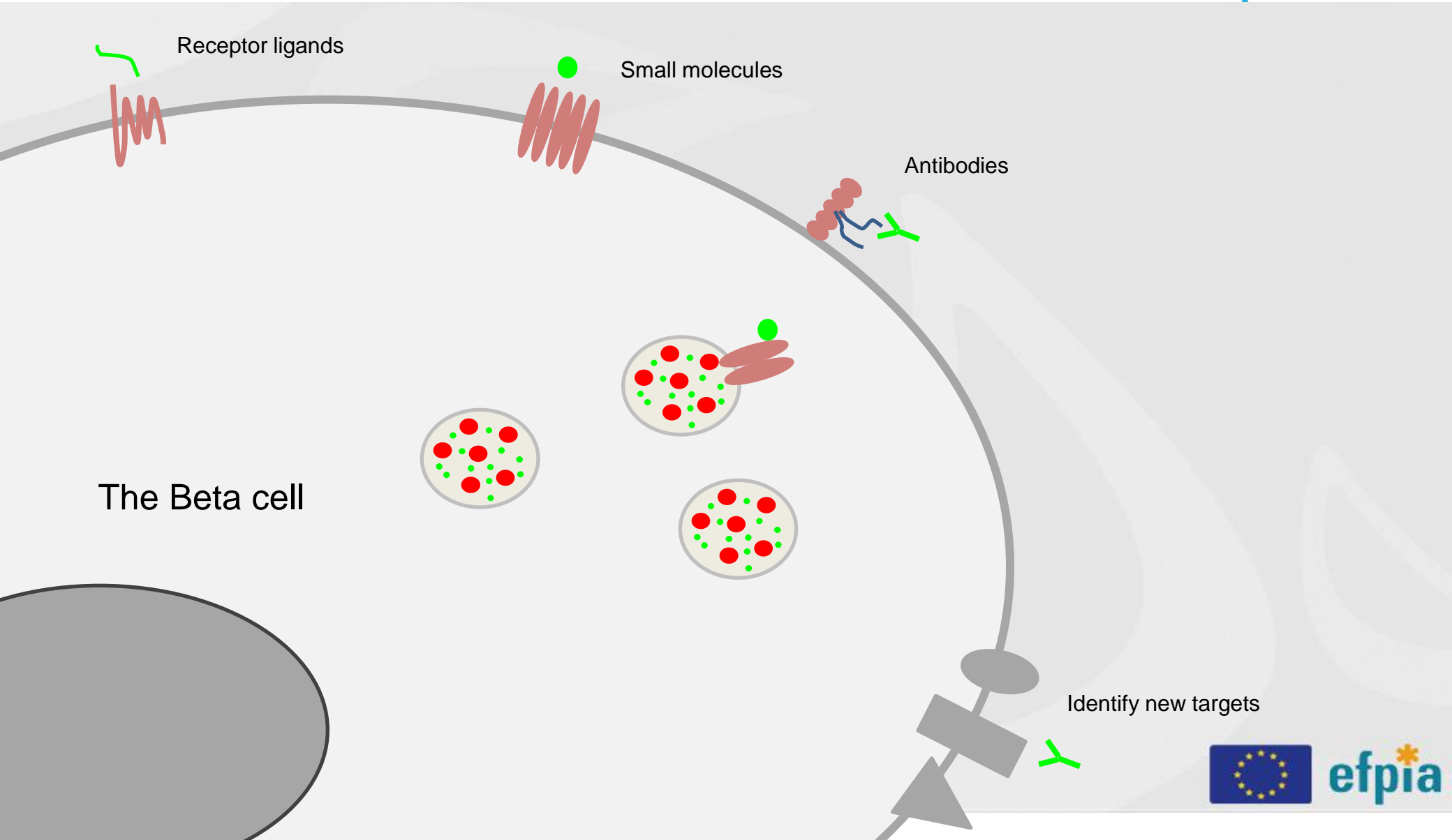
68 months



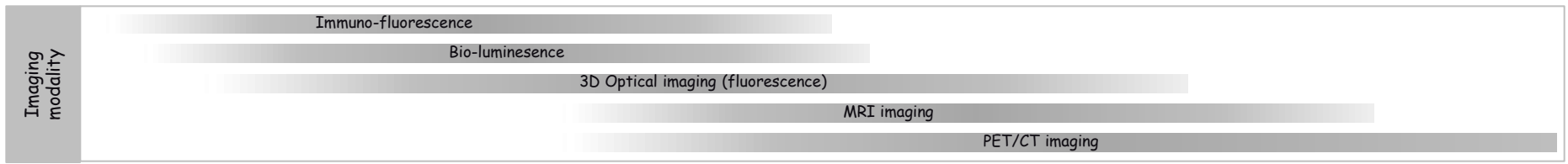
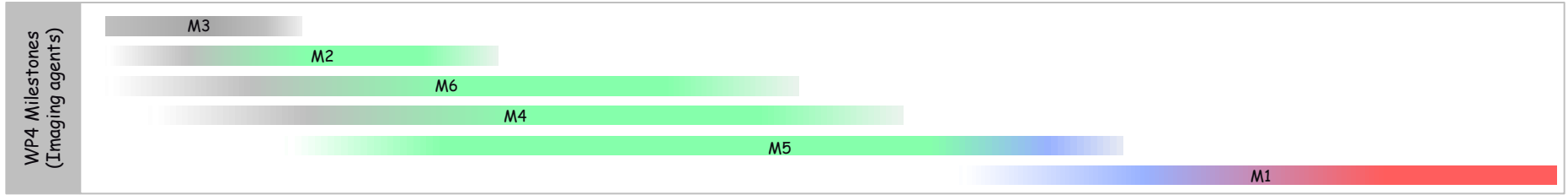
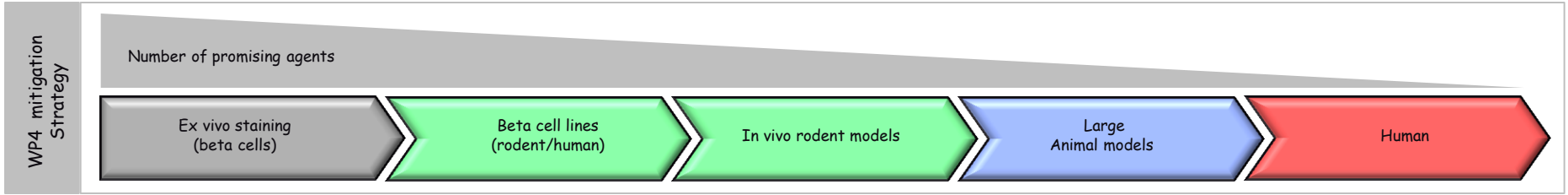
WP4 Goal:

Non-invasive imaging for in vivo diagnosing beta-cell mass and function in diabetes and following drug treatment

The beta cell is the key



Combining tracers with imaging modalities

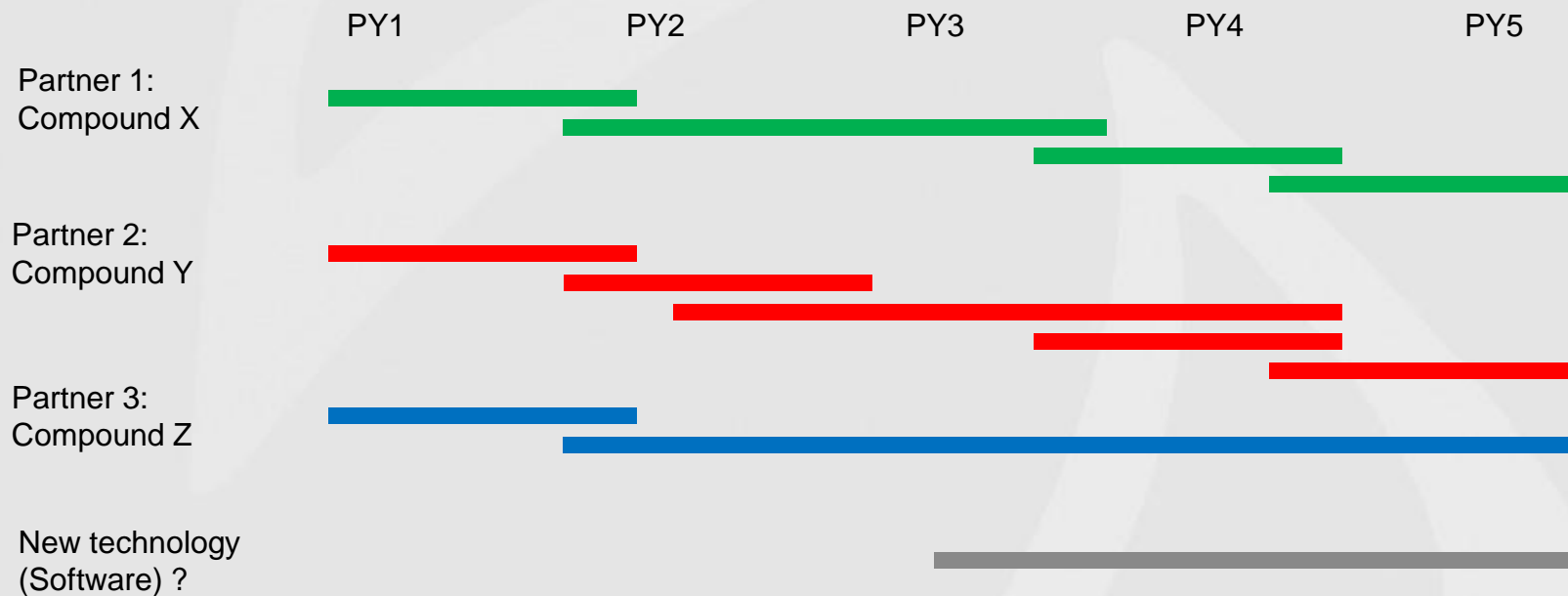


Ex vivo

In vivo

What is the experience from WP4

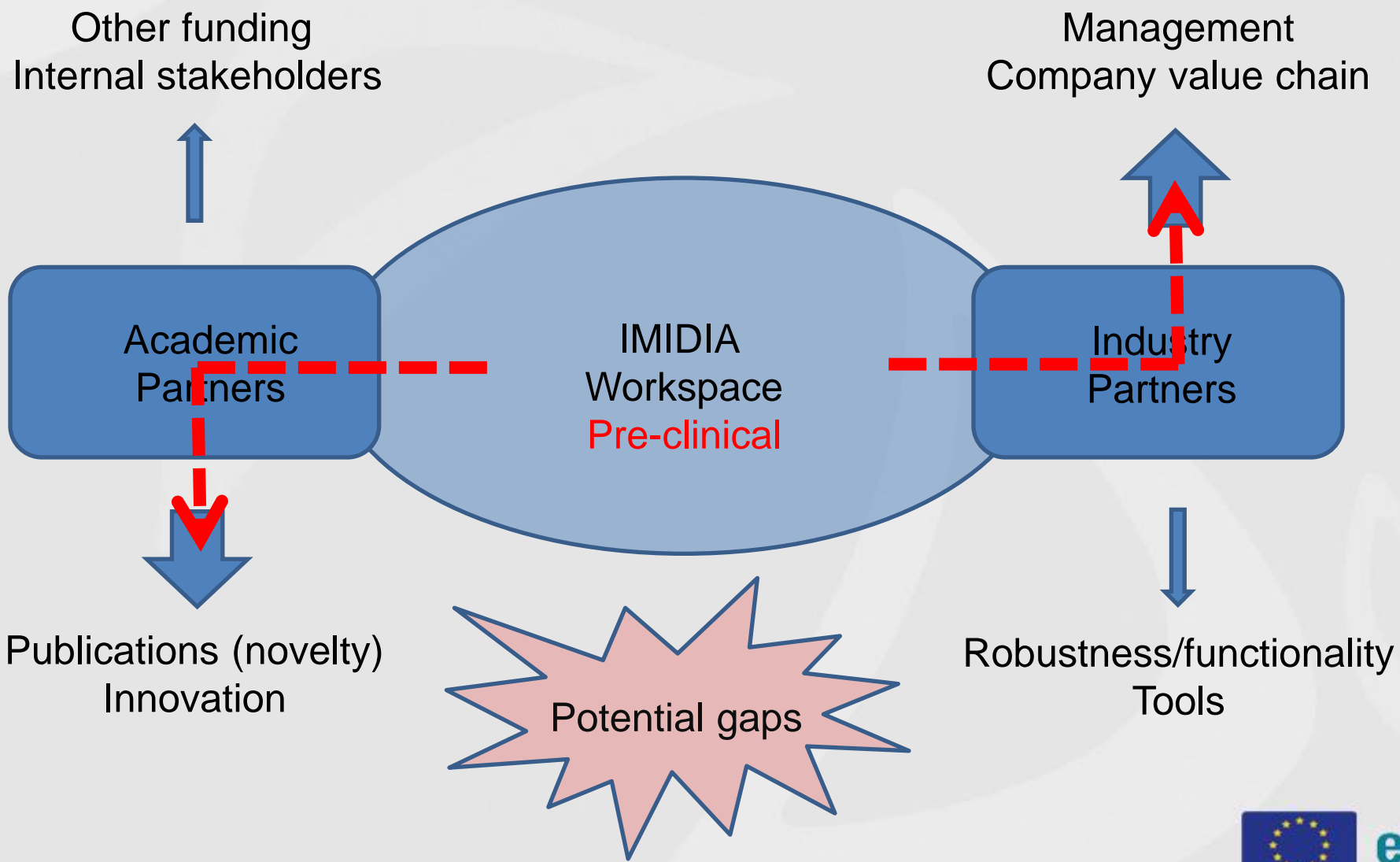
Very well organised...



No STOP/GO decisions (secondary values)

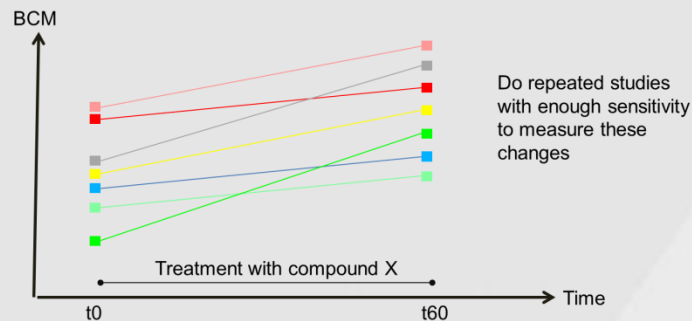
When planning we extrapolate present knowledge into the future!

Creating value for the individuals working in the in IMIDIA workspace!



If it is possible to measure BCM in man, what will it be used for?

Very expensive and labor intensive compared to BG or HbA1c
Due to variation between individuals it doesn't make sense to have one time point
Where we believe it can add value is in longitudinal studies



Imaging beta cells will be a tool for developing new drugs

Implementation of biomarkers to stratify patient populations



Other funding
Internal stakeholders



Academic
Partners



Tool invention
Impact

Customers
Company value chain



Biotech
Partners



Tool development
Business

Management
Company value chain



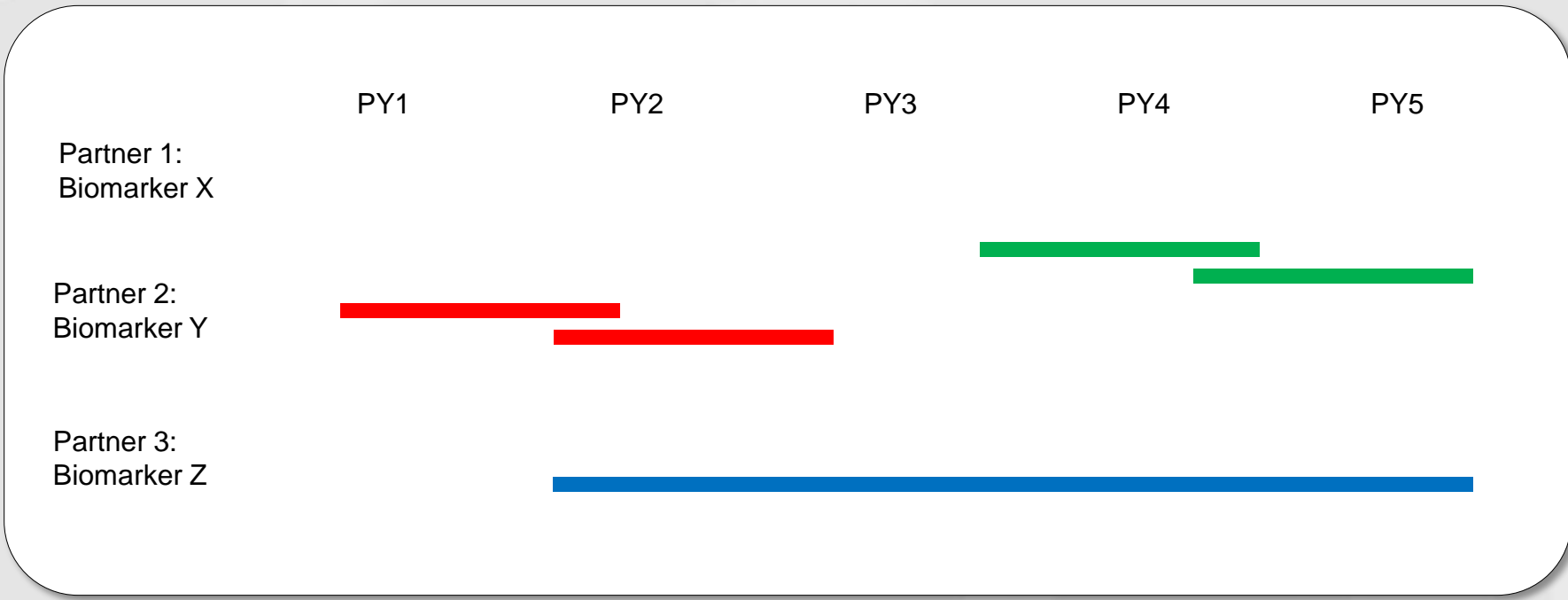
Industry
Partners



Tool implementation
Robustness



Plan for flexibility



Thank you for your attention