



Innovative Medicines Initiative

# **IMI: A Public Private Partnership Approach to the Boosting of Pharmaceutical R&D**

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Innovative Medicines Initiative

# Hurdles to Better Healthcare



## Society

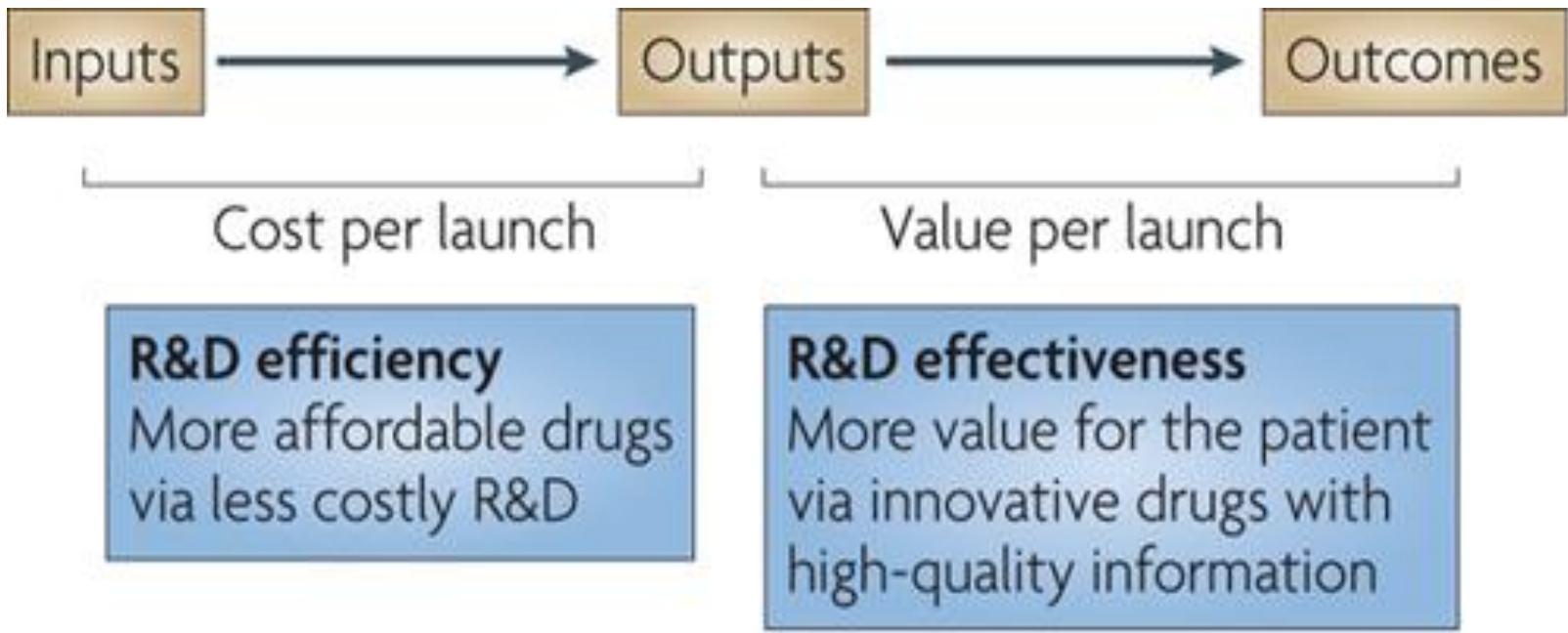
- Healthcare challenges continue to raise around the world
- A lot of these challenges are not addressed
- Pressure on healthcare systems and budgets continue to rise

## Industry

- Progress in basic science is not translated to medical innovation and benefits to patients
- Costs for developing new drugs continue to increase
- Pharma incentive systems and profitability are under pressure



# Key changes are Needed to the Pharma R&D Model

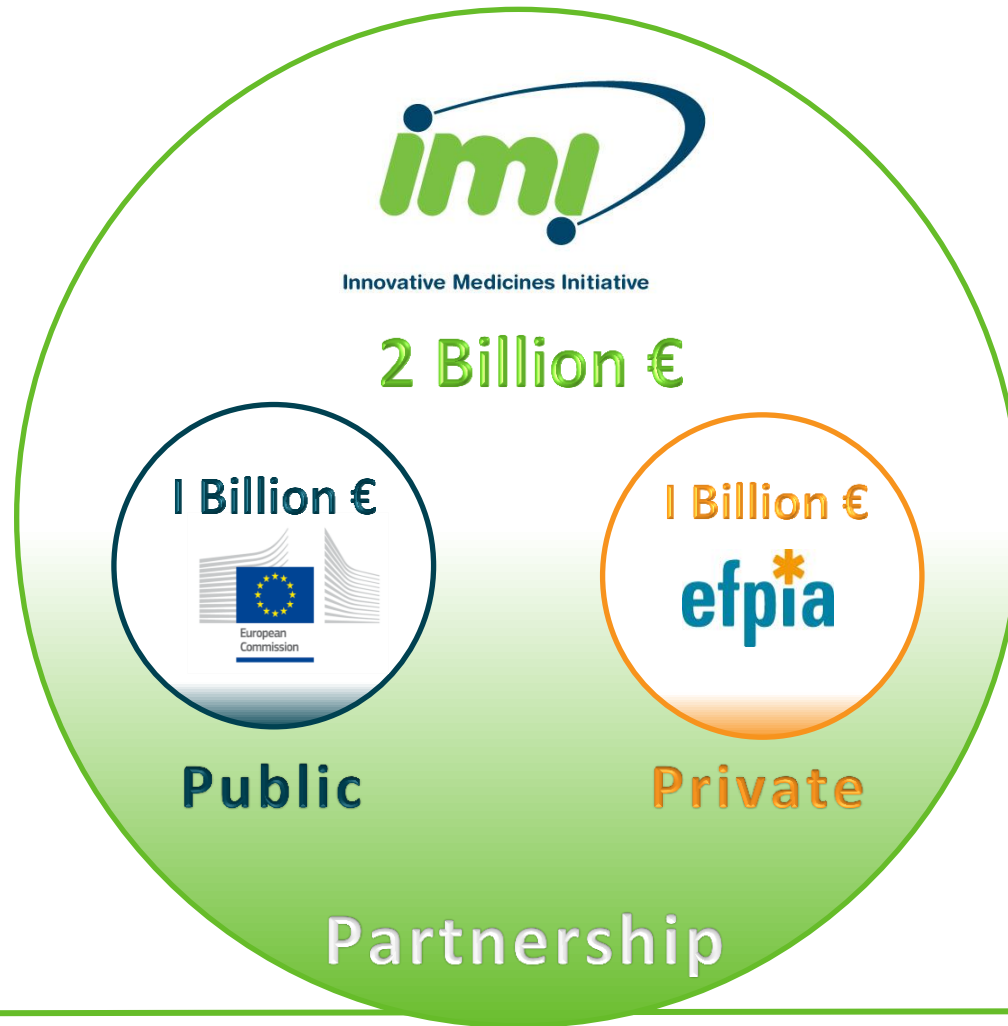


## Nature Reviews | Drug Discovery

*How to improve R&D productivity: the pharmaceutical industry's grand challenge*  
Steven M. Paul, Daniel S. Mytelka, Christopher T. Dunwiddie, Charles C. Persinger, Bernard H. Munos, Stacy R. Lindborg & Aaron L. Schacht  
*Nature Reviews Drug Discovery* 9, 203-214 (March 2010)



# Innovative Medicines Initiative: Joining Forces in the Healthcare Sector



# Key Concepts underlying IMI

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Open innovation in  
public-private consortia

Non-competitive collaboration  
between large pharma companies

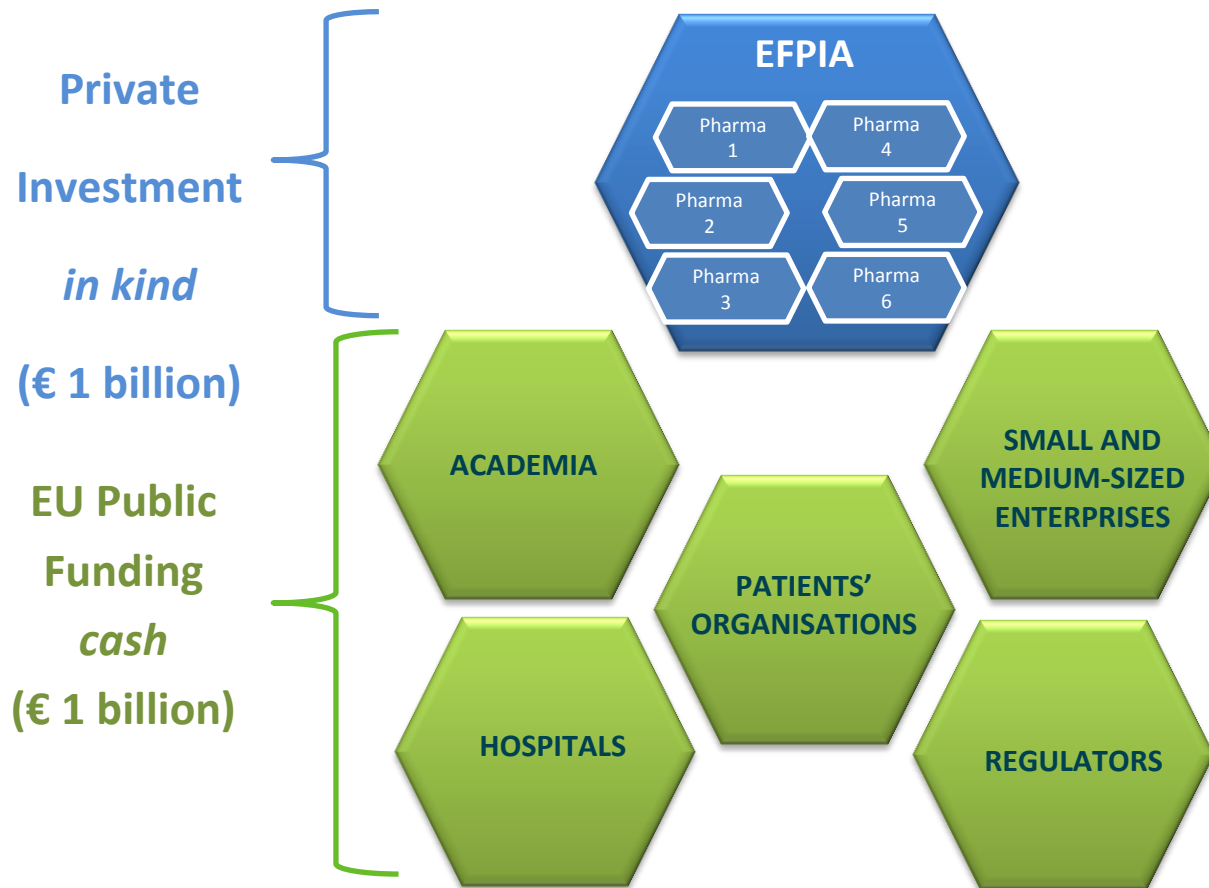
A new ecosystem for sustainable healthcare  
across Europe, involving all stakeholders



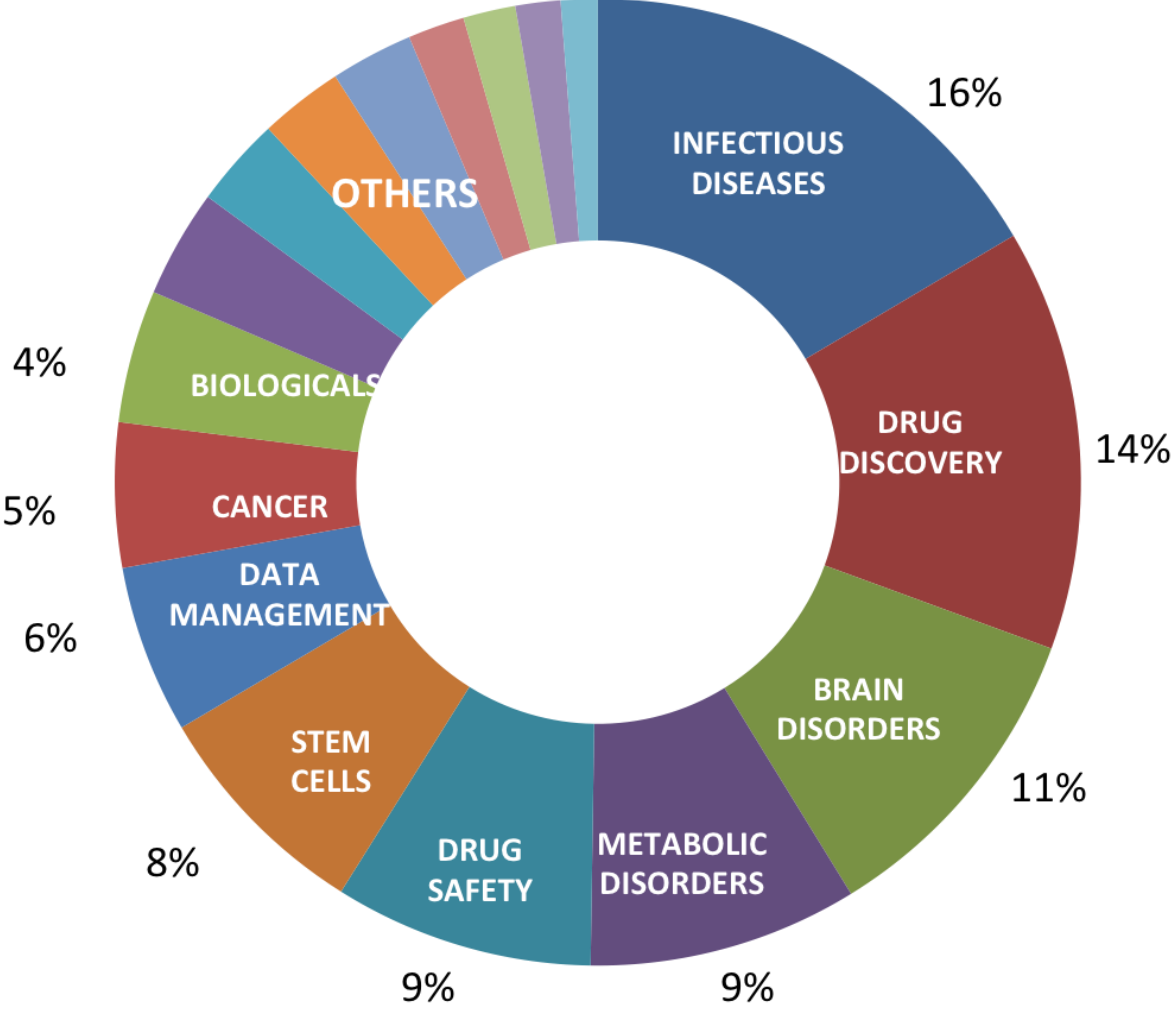
# How IMI works – Project Architecture



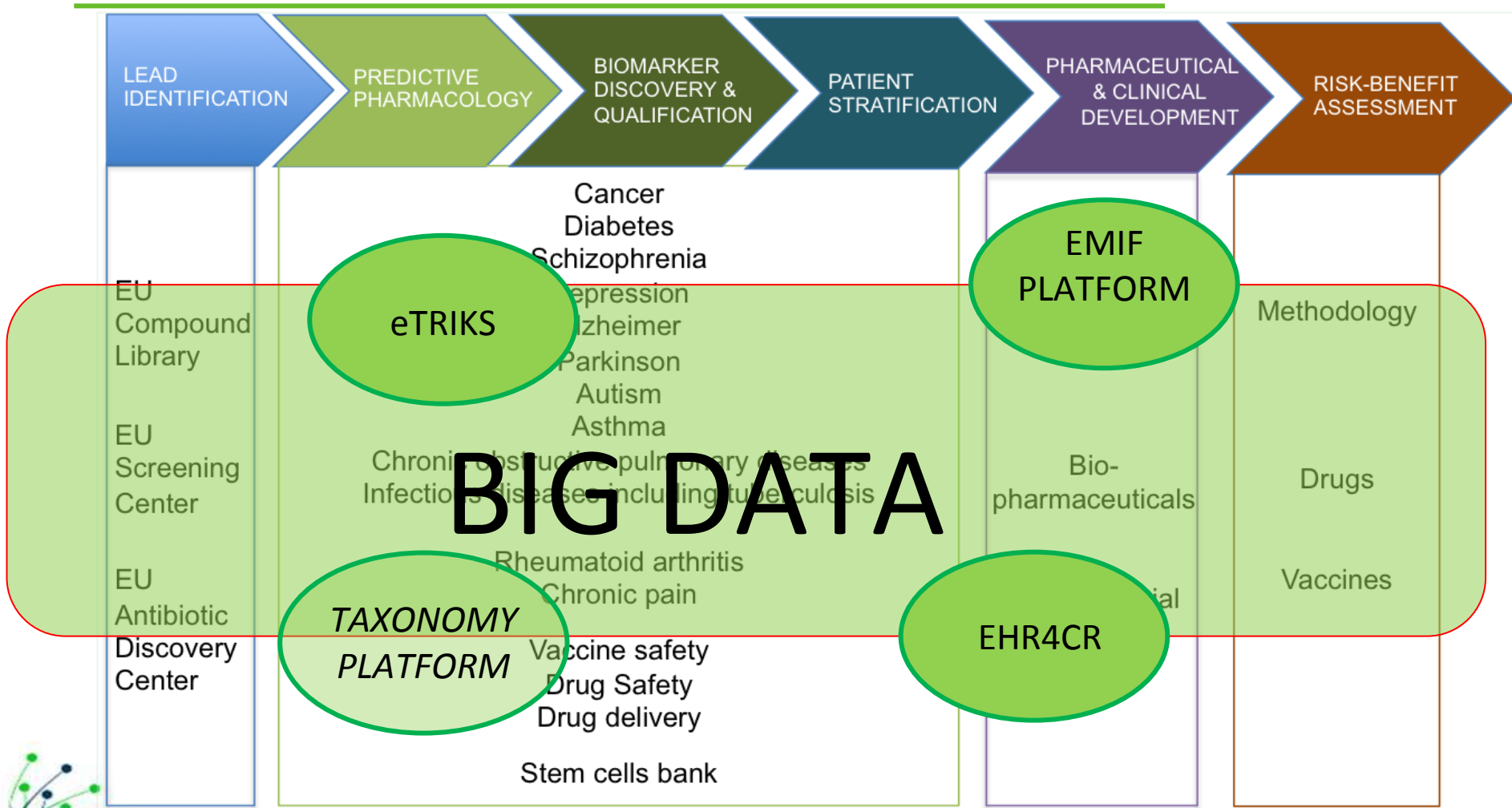
## A Typical IMI Consortium



# IMI portfolio – Budget Breakdown



# Mapping of Ongoing IMI Projects





# Today Agenda & Speakers

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**Creating new models for R&D in areas of unmet clinical need: Autism Spectrum Disorder** *Will Spooren*, Head of Behavioural Pharmacology and Preclinical Imaging, Hoffmann-La Roche

**Addressing the challenges of diabetes and its complication: The IMI Diabetes Platform** *Bernd Jablonka*, External Alliances, Diabetes Division, Sanofi–Aventis

**A PPP approach to boost antimicrobial resistance R&D: the ND4BB IMI platform** *Seamus O'Brien*, Therapeutic Area Clinical Director, Lead Infection Global Medicines Unit, AstraZeneca



# AUTISM SPECTRUM DISORDERS: A Paradigm for Non-Competitive Public-Private Partnership



## Major Public Health Need

1% children affected

High societal burden

- Lifetime cost: €3mi/patient
- UK annual cost: €40 billion
- Impact on familial lives

## Distrust in past-research

MMR vaccine allegation

Psychoanalytic theories (France)

## Hurdles to drug development

Complexity of brain circuitry

Patients heterogeneity

Lack of validated markers for disease activity



# EU-AIMS



## Unprecedented public-private consortium



# DIABETES:

## Fighting the Epidemic through Public-Private Partnership



### Major Public Health Need

Diabetes will affect 43 million Europeans in 2030

€89 million spent on 2011 on treating diabetes and its complications

### Distrust in past-research

Cardiovascular complications of rosiglitazone and benfluorex

### Hurdles to drug development

Patients' heterogeneity

Lack of reliable markers for disease activity and complications



# The IMI DIABETES Platform



THE IMI  
DIABETES  
PLATFORM

COLLABORATIVE APPROACHES  
TO OVERCOME KEY BOTTLENECKS  
ON THE WAY TO NOVEL THERAPIES

**DIRECT**  
Drug Research Innovation Consortium

**SUMMIT**  
Summit analyses for  
novel evidence-based  
therapies for  
innovative diabetes tools

**imidia**  
European combined excellence  
in diabetes research

Three scientific consortia delivering game  
changing solutions for this major health  
burden of the 21st century within a  
unique European public-private-partnership  
– the Innovative Medicines Initiative (IMI)\*

\*IMI Innovative Medicines Initiative: a public-private partnership between the European Commission (EC) and the European Federation of Pharmaceutical Industries and Associations (EFPIA), consisting of 35 leading pharmaceutical companies.

**IMIDIA – DIRECT – SUMMIT:**  
*Bringing together experts  
from academia, industry and  
biotech to generate novel  
approaches for diabetes  
research and treatment in a  
unique collaborative  
European Public-Private-  
Partnership (PPP)*



# ANTIMICROBIAL RESISTANCE: Reinvigorating Antibiotics R&D through Public-Private Partnership



## Major Public Health Need

Anti-microbial resistance kills 25 000 European citizens every year and spread at rate that is both alarming and irreversible – similar to global warming

Annual costs are estimated at €1.5 billion

## Distrust in past-research

Guidelines for antibiotics changed several times, contributing to confusion and mistrust

Irresponsible use of antibiotics

Lack of high quality clinical trial infrastructure

## Hurdles to drug development

Low return on investment

Regulatory environment

Lack of sharing R&D experience

Lack of rapid diagnostic tests/ biomarkers

Accessing drug targets is challenging

# ND4BB

*The overall vision of ND4BB is to create an innovative collaborative Public-Private Partnership (PPP)-based approach that will encompass all aspects from the discovery of new antibiotics to Phase 2 and 3 clinical trials with the aim of reinvigorating antibiotic R&D*





# IMI - The Neutral Trusted Party



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**Fosters large scale industry collaboration and engagement with scientific community**

**Promotes active involvement of patients, regulators and payers**

**Enables innovation via joint effort where singular approach has failed so far**

**Facilitates Intellectual Property agreements**

