



# **Horizon 2020: Health research and innovation policy and programmes**

**Universitat de les Illes Balears**



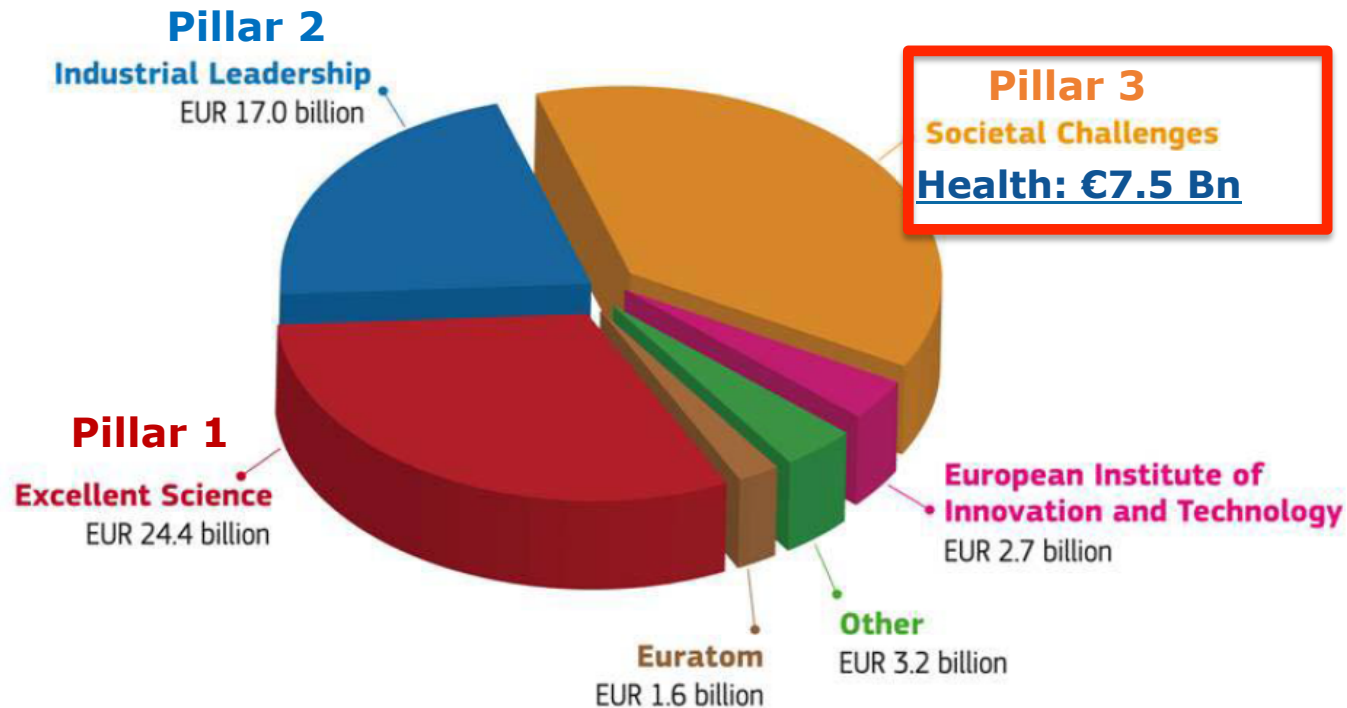
**Ruxandra Draghia-Akli, MD, PhD  
Director Health  
DG Research & Innovation  
European Commission**

**1 February 2016**

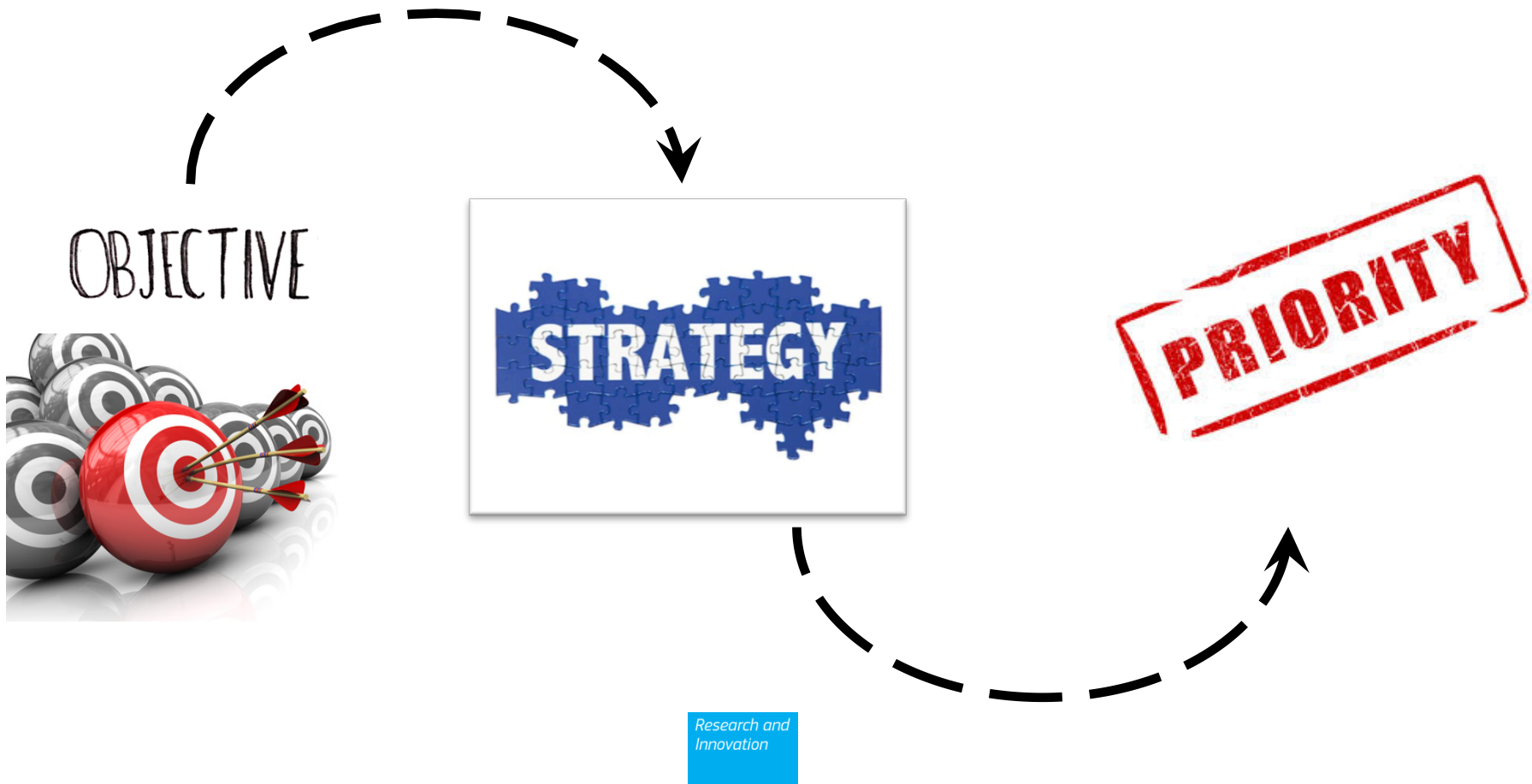
**HORIZON 2020**

# Horizon 2020 (2014-2020)

## €80 billion for research and innovation



# How do we invest our funds?



# OBJECTIVE



**To improve the  
lifelong health and  
well-being of all**







**Carlos Moedas, EU  
Commissioner for  
Research, Science and  
Innovation**

## **3 Os:**

- **Open innovation**
- **Open science**
- **Open to the world**

2014-15:  
EUR 1.3 B

2016-17:  
EUR 1.4 B

**PRIORITY**



## Personalised medicine



Healthy ageing  
(2014-2017)



Health ICT  
(2014-2017)



Infectious Diseases  
(2014-2017)

Human  
biomonitoring  
(2016-2017)



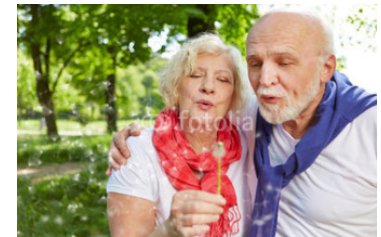
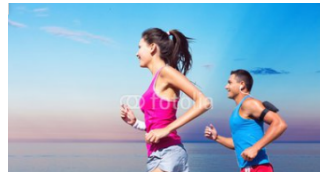
Research and  
Innovation



Maternal and  
child health  
(2016-2017)

# Impact: Societal and political

## More healthy life years



## Evidence based policy making



Medicines for  
children



Health  
Technology  
Assessment



ATMP

## Leading R&I



Personalised  
medicine

## Responding to emergencies



**Ebola drug trials lurch ahead**

Changing epidemiology and hints of success alter studies of experimental treatments

By Neil Raftery-Smith and Jon Cohen  
of the epidemic in September when more than 500 cases were reported in a single week in West Africa.

## Main principles

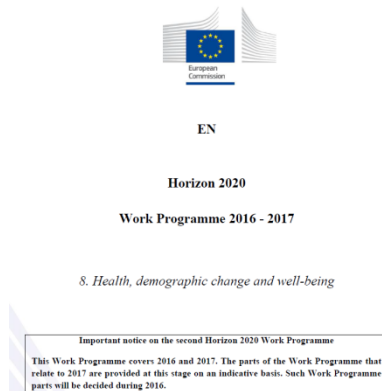
- Funding rate: 100% in most cases
- Eligibility: Minimum 3 partners from 3 EU or AC\* countries
- Time to contract: 8 months (from call deadline to contract)
- Annually ~100 new projects funded
- Typical project: ~8 partners, 4 years, €6 m EU contribution
- Success rate: ~5%

\* Albania, Bosnia and Herzegovina, Faroe Islands, Former Yugoslav Republic of Macedonia, Iceland, Israel, Moldova, Montenegro, Norway, Serbia and Turkey

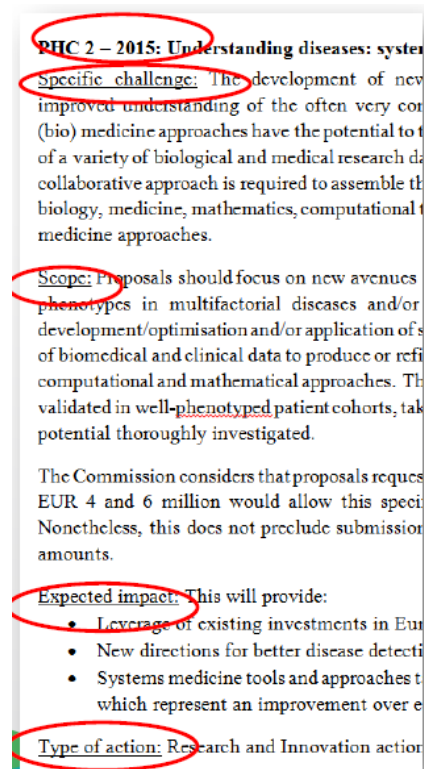


# Implementation (1/2)

## 1. Work programme



## 2. Research topics



## 3. Project proposals



## Implementation (2/2)

4. Submission ends at call deadline



5. Peer review evaluations of project proposals



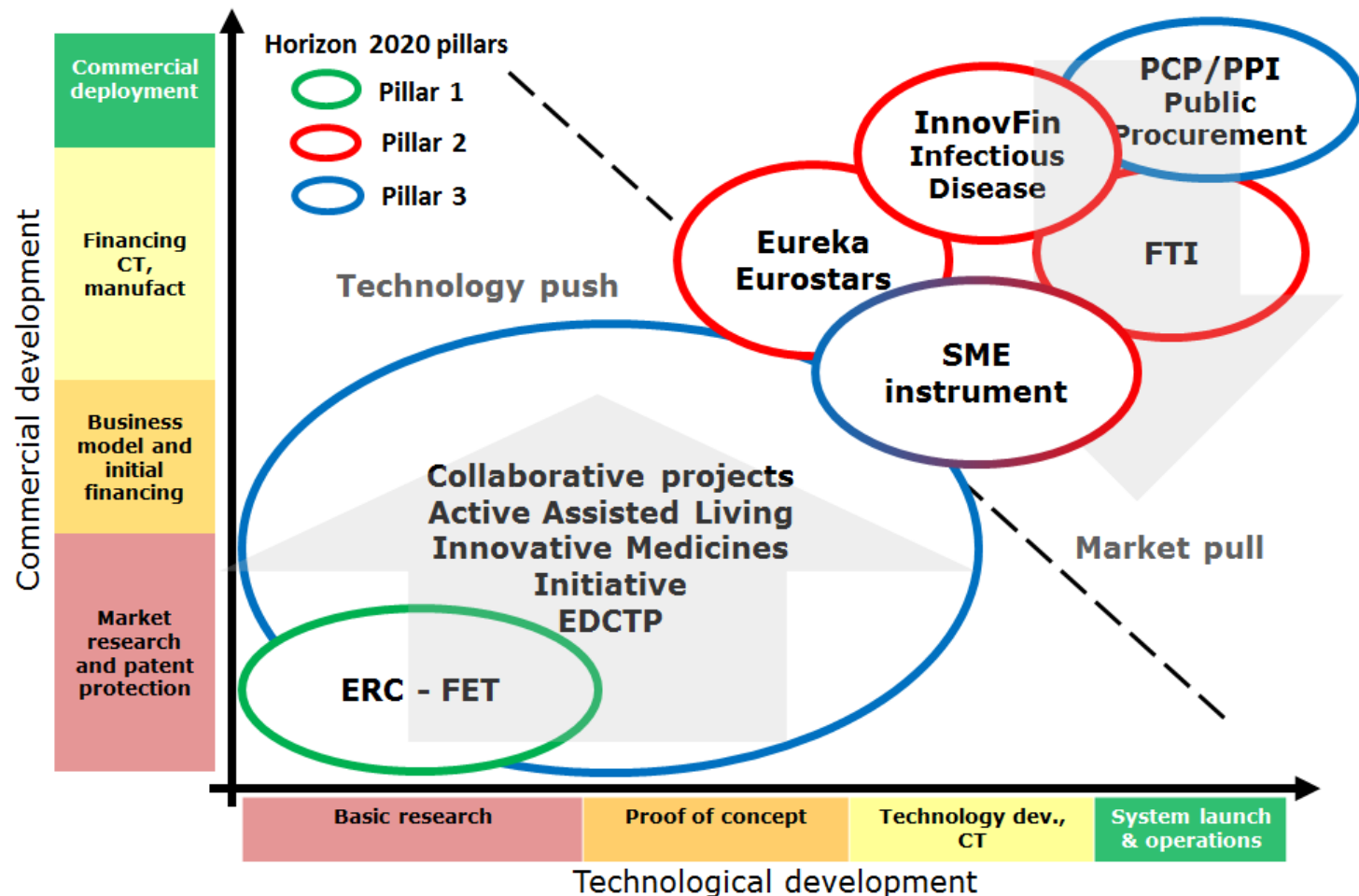
6. Only the very best projects are funded!



## different communities & purposes



# Distributed along the innovation value chain





# Health R&I in Horizon 2020: overview

1. European Research Council (ERC), Marie Skłodowska-Curie, Future and Emerging Technologies (FET)
2. Collaborative projects
3. IMI
4. EDCTP
5. Close-to-market - Innovation instruments
6. Global co-operation

# European Research Council

- **ERC starting grants**
  - Researchers with 2 to 7 years experience after PhD
  - Grants up to €1.5 million for 5 years
- **ERC consolidator grants – open** (Deadline: 2 February 2016)
  - Researchers with 7 to 12 years experience after PhD
  - Grants up to €2 million for 5 years
- **ERC advanced grants**
  - Established researchers with recent track-record identifying them as leader in their field
  - Grants up to €2.5 million for 5 years
- **ERC Proof of concept - open** (multiple cut-off dates)
  - For ERC Grant holders only
  - Up to €150,000

# Marie Skłodowska-Curie

- **Research networks (ITN) - forthcoming**
- **Individual fellowships (IF) - forthcoming**
- **Marie Skłodowska-Curie co-fund - forthcoming**
- **Research and Innovation Staff Exchange (RISE)**  
- **open** (Deadline: 28 April 2016 )
- **FET programme (Future and Emerging Technologies)**
- FET Proactive: emerging themes and communities  
Area 2: Biotech for better life – **open** (Deadline: 12 April 2016)

## Collaborative projects

- **3 partners from 3 EU-28 member states or AC countries to be eligible for funding**
- **Societal Challenge 1 Health calls open:**
  - Call PERSONALISED MEDICINE
  - Call Identifier: H2020-SC1-2016-2017
- **Other Health-related topics in H2020:**
  - **Search keywords** -  
use the search engine of the Participant Portal



# SC1 collaborative projects funded so far

(excl. IMI2, EDCTP2 and AAL2)

SC1 Specific activities	Topics (2014-2017)	Projects funded (2014-2015)	EU contribution (2014-2015) (EUR million)
Understanding health, well-being and disease	7	29	165,8
Preventing disease*	12*	203*	341,7*
Treating and managing disease*	11*	44	257
Active ageing and self-management of health	8	22	86,5
Methods and data	10	20	83,2
Health care provision and integrated care	8	37	186,6
Specific implementation aspects (coordination)	32	23	86

\* Including SME instrument topic (phase 1 & 2)

# Public-private partnerships: Innovative Medicines Initiative

**Objective:** Develop the next generation of vaccines, medicines and treatments



# IMI key concepts



The right prevention and treatment  
for the right patient at the right time

Strategic Research Agenda for  
Innovative Medicines Initiative 2

**Aligned with  
WHO priorities**

- Focus on unmet needs
- Non-competitive collaborative research
- Competitive calls for proposals
- Open collaboration in public-private consortia
- Data sharing, dissemination of results...
- Industry contribution is mainly in-kind: no public funding goes to industry

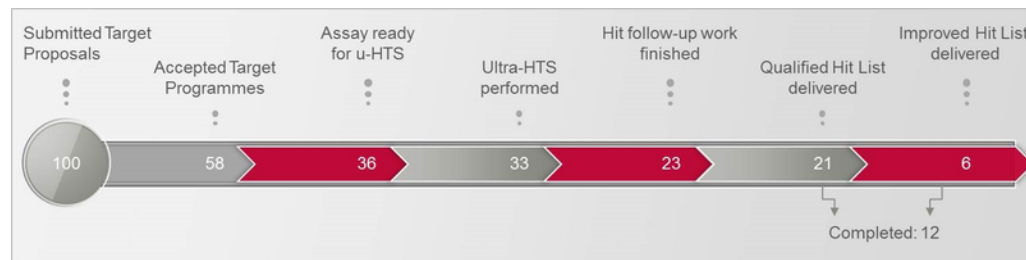
**IMI: €80 m**  
**EFPIA: €91 m**  
**OTHER: €25 m**

# IMI project example

- European Lead Factory – 1<sup>st</sup> European Compound Library & Screening centre
- 150 employees combining innovation of academia, agility of SMEs, and experience of Pharma
- Objective: free access to up to 500,000 novel compounds

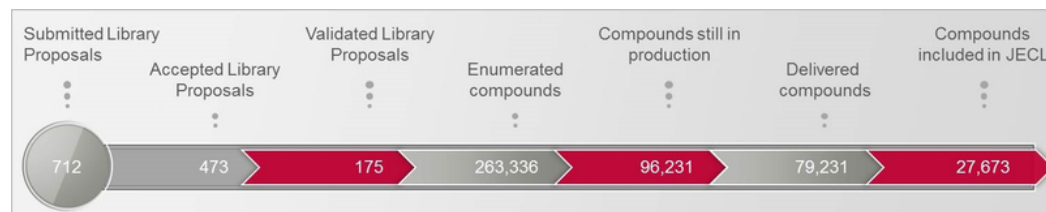
## Drug targets:

- Already >500 hit compounds handed over to academics and SMEs to start drug development programmes
- 58 drug targets accepted after screening, 21 Qualified Hit Lists delivered



## Library designs:

- 175 validated library proposals, close to 80k compounds delivered
- Target: 200,000 publicly-sourced compounds adding to the 300,000+ EFPIA compounds





# The European & Developing Countries Clinical Trials Partnership

## Objective:

- Accelerate the development of new or improved drugs, vaccines, microbicides and diagnostics against **HIV/AIDS, tuberculosis** and **malaria** as well as other **poverty-related and neglected infectious diseases** in sub-Saharan Africa
- Supports of **all clinical trials** (phases I to IV), **new or improved medical interventions**, as well as **capacity development** in sub-Saharan Africa



# The European & Developing Countries Clinical Trials Partnership



≥ € 683 M

IN-KIND/CASH

**PARTICIPATING STATES'  
INITIATED ACTIVITIES**

- Administered by Participating States
- Selected and funded by Participating States
- Application of Participating States' funding rules



≤ € 683 M

CASH

**EDCTP2 CALLS  
FOR PROPOSALS**

- Administered by EDCTP
- Funded by the EU, Participating States and third parties
- Horizon 2020 rules for participation

**Third parties**

(Private sector, PDPs,  
International  
Development Partners)

≥ € 500 M

IN-KIND/CASH

**Synergy**

**Capacity for  
Clinical trials in  
Africa**

**Clinical trials in  
Africa on PRDs**

Research and  
Innovation

# EDCTP: Recent highlights

**Two HIV paediatric formulas – safe and highly effective at protecting infants during breastfeeding up to 12 months after birth**

*The Lancet, 18 November 2015*

**Pyramax® approved as antimalarial for treatment of multiple episodes of malaria**

*EMA news: Meeting highlights from the Committee for Medicinal Products for Human Use (CHMP) 16-19 November 2015*

**9 December 2015 – EDCTP receives science diplomacy award at South African Science Forum**

# Close-to-market instruments

- **SME instrument**

- Eligibility: only SMEs can apply
- Phase 1 grants: €50k
- Phase 2 grants: Up to €5 m
- Topic: (1) Cell technologies in medical applications, (2) Clinical validation of biomarkers, (3) Accelerating market introduction of ICT solutions for Health, Well-Being and Ageing Well - **open** (several cut-off dates)

- **Fast Track to Innovation**

- Eligibility: 60% of the overall project budget allocated to industry participants or majority of industry participants
- 3 to 5 partners maximum, max. €3 million EU contribution
- Fully bottom-up - **open** (several cut-off dates)

- **InnovFin: Loans and equity for businesses**

# SC1 projects: close-to-market projects

(Up to November 2015)

	<b>SME instrument</b>	<b>Fast-track to Innovation (FTI)</b>	<b>InnovFin Financial instruments</b>	<b>EFSI* European Fund for Strategic Investments</b>
Type of support	Grant	Grant	Loan	Loan
Number of health related projects	170	7	10**	3
EU support (EUR million)	99.9	15.2	683.8***	290****
Total project cost (EUR million)		20.1	1,599.7	at least double

\* Data in progress

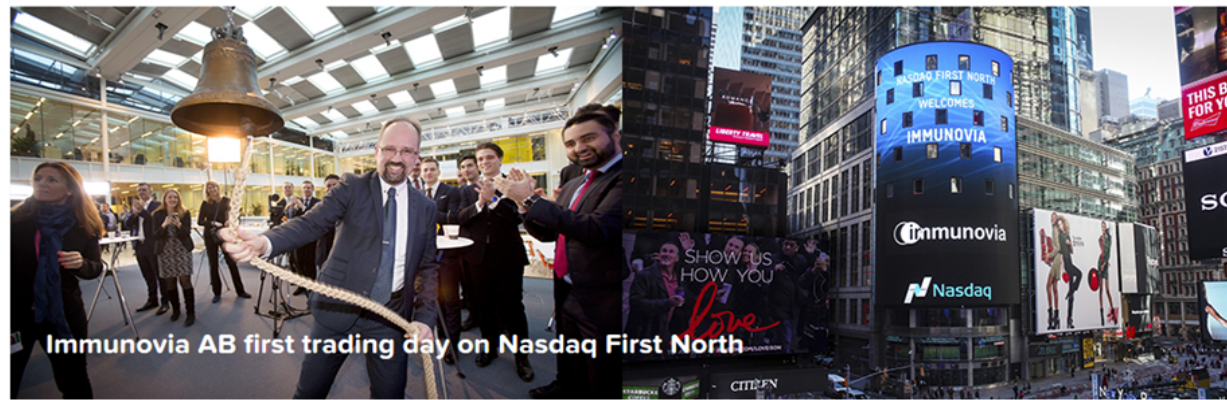
\*\* Including InnovFin Infectious Diseases

\*\*\* InnovFin loan amount

\*\*\*\* EFSI financing, as published

# Success story: SME instrument

- Immunovia AB: Spin-off from Lund University & CREATE the Center for Translational Cancer Research in Lund - founded in 2007
- IMMray™, a technology platform used to diagnose, predict disease progression and monitor the therapeutic responsiveness of cancers
- Dec. 2014: SME instrument project - EU contribution: 4 million EUR
- Dec. 2015: Initial Public Offering (IPO) at Nasdaq First North Stockholm
- Mats Grahn, CEO of Immunovia: *"The fact that we received this very large grant in competition with so many companies and after thorough evaluations has given the confidence to our investors in the process of making the IPO"*





# Global coordination of R&I with funding agencies



# Global cooperation with funding agencies outside Europe

- Identify and define shared strategic goals
- Agree to approach jointly and share tasks (and costs)
- Let each agency use its own funding mechanisms/timing
- Agree to share data / standards



**Alignment – Flexibility – Commitment**

**Example: Global Alliance for Chronic Diseases (GACD)**

# Success story:

## Global Alliance for Chronic Diseases

Feel4Diabetes: Project supporting social and physical lifestyle changes to prevent diabetes in vulnerable families across Europe

### Strategy:

- Phase I (PRECEDE):
  - Identification of target populations, behaviors and determinants
  - Review of existing type 2 diabetes prevention, policies, legislation
  - Development of a low-cost & applicable in low-resource settings community-based intervention programme
- Phase II (PROCEED):
  - Implementation of intervention
  - Assessment of the impact, outcome, cost-effectiveness and scalability

# UIB participation (2007-2015)

Framework Programme 7 (2007-2013) & Horizon 2020 (2014-2015)

## 3 Horizon 2020 projects; 24 FP7 projects

Programmes	Theme	Projects	EU contrib. (€)
<b>Horizon 2020</b>	Marie Skłodowska-Curie	1	247,872
	FET	1	219,875
	SESAR JU	1	128,000
<b>FP7</b>	Bioeconomy	5	2,939,916
	ICT	8	2,173,327
	Marie Skłodowska-Curie	6	1,336,637
	Move	2	554,499
	Transport	1	193,928
	<b>Health (EDENext, DIABAT)</b>	<b>2</b>	<b>374,160</b>
<b>TOTAL</b>		<b>27</b>	<b>8,168,215</b>

# UIB successful participation in health

- **EDENext:** Biology and control of vector-borne infections in Europe (2011-2014)

EU contribution €11,981,710

The project brought together 46 international partners dedicated to investigating the biological, ecological and epidemiological components of vector-borne disease introduction, emergence and spread, and the creation of new tools to control them

- **DIABAT:** Recruitment and activation of brown adipocytes as preventive and curative therapy for Type 2 diabetes (T2D) (2011-2015)

EU contribution €5,999,998 - final payment in the pipeline

Recruitment and re-activation of endogenous energy-dissipating BAT as a preventive and/or remedial measure for weight and blood sugar control in obesity-related T2D

# Learn more

- Horizon 2020 Societal Challenge 1 [website](#)
- Participant portal: [All H2020 calls and topics](#)
- Search topics by keywords - [use the search engine of the Participant Portal](#)
- Support & advice about Horizon 2020: [Spanish NCPs](#)







# HORIZON 2020

**Thank you  
for your attention**