

Combining systems biology tools to understand drug-induced toxicity

WHY?

Medication-related adverse events contribute significantly to hospitalization, especially in older patients.

WHAT?

- What are the pathways activated upon drug treatment?
- Which of these pathways are relevant for drug induced toxicity?
- What is the interplay between each of the molecules within the pathway?

HOW?

drugs inducing toxicity at diferent organs (e.g., paracetamol in liver)

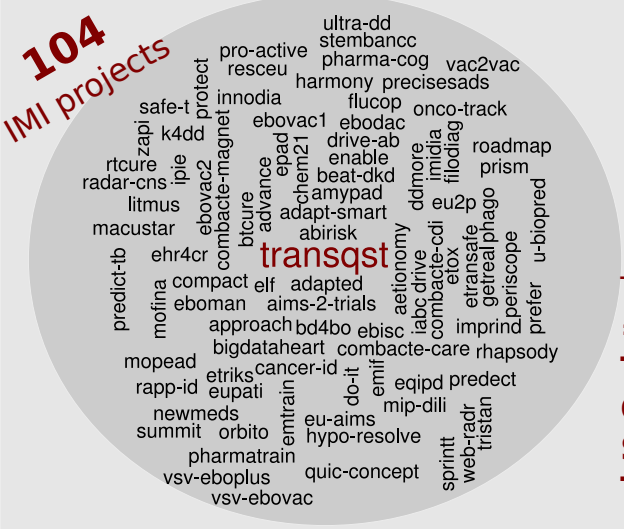
cross-species analysis

literature mining and data integration

multi-scale modeling involving:

- network analysis
- pharmacokinetic simulation

transcriptomics profiling



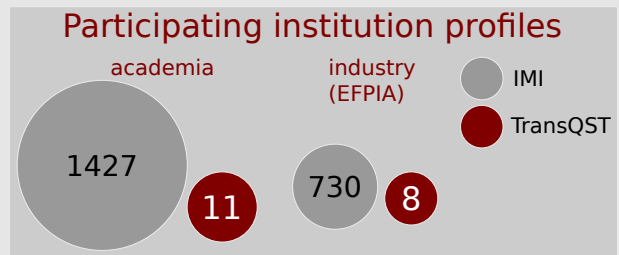
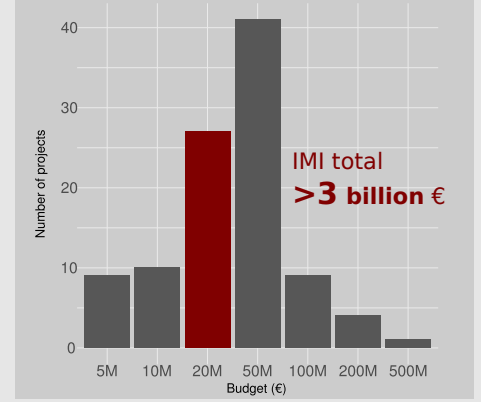
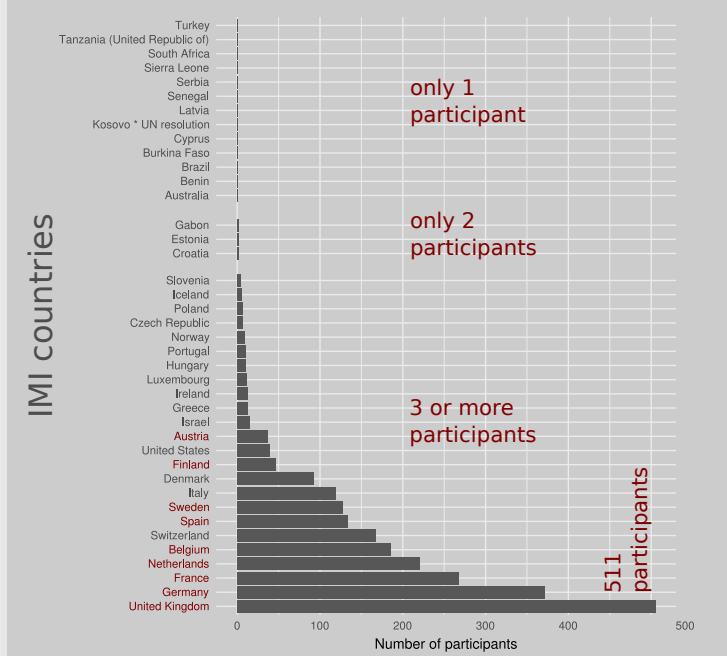
IMI
=
cutting-edge medical research

TransQST
=
Translational Quantitative Systems Toxicology

development	biomarker	patient	treatment	clinical	ebola		
drug	diabetes	bacterial	cell	innovative	prediction	resistance	
disease	medicine	translational	imaging	methods	model	molecular	pharmaceutical
europaen	new	access	platform	ad	alzheimer's	based	big
vaccine	safety	better	preclinical	consortium	multi	neurodegenerative	novel
	system	combating	risk	diagnostic	programme	tools	training
		discovery	tumour	knowledge	rapid	type	using
			marker	therapy	understanding		

21 TransQST participants
represent **9 out of 40 IMI countries**

>15 million € over 5 years
for TransQST (2017 - 2021)



* Brought to you by proud TransQST consortium partner **Hospital del Mar Research Institute (IMIM)** in Barcelona. The data was collected from imi.europa.eu/projects-results/project-factsheets, analyzed and visualized with R (r-project.org). **TransQST** has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No 116030, which in turn, receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.