Testimonial from an industry partner

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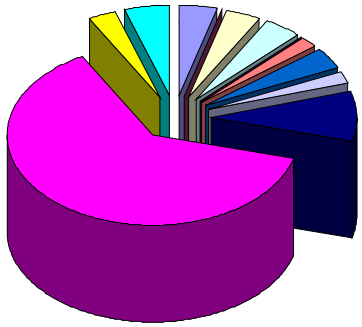
SAFE-T

AstraZeneca at a glance

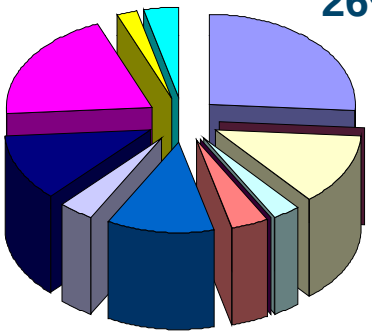
- **Pure play pharmaceuticals business**
  - Cardiovascular/Metabolism & Gastrointestinal
  - Neuroscience
  - Respiratory and Inflammation
  - Oncology and Infection
  - Small Molecules and Biologicals
- Over 65,000 employees worldwide
- 12,000 people in R&D
- 26 manufacturing sites in 18 countries
- Extensive sales & marketing network dedicated to meeting our customers' needs in over 100 countries.
- Sales 2008: 36.1 billion USD
- R&D spend 2008: over 5 billion USD

Why drugs fail in development and how these vary by phase?

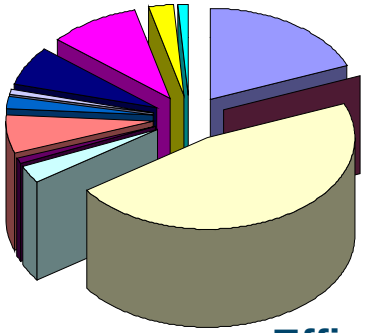
Preclinical | **Phase I** | **Phase II** | **Phase III**



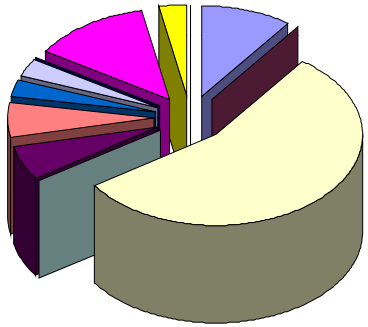
Toxicology 62%



Clinical Safety 26%



Efficacy 47%

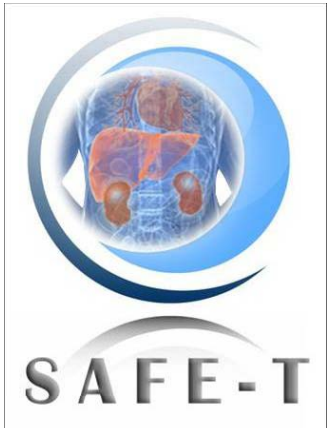


Efficacy 55%

Problem to be solved at EU level: Only 1 of 10 CDs may become a product

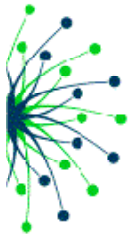
SAFE-T
(Safer and faster evidence-based translation)

- 3 target organs criticial for drug-induced injury with non-appropriate clinical monitoring **:**
  - **Kidney:** Current standards (Serum Creatinine, BUN) are only increased when 50-60% of the kidney function is lost.
  - **Liver:** Current standards (AST, ALT, Bilirubin) are not specific and do not predict who will recover and who will develop fulminant liver disease.
  - **Vascular System:** There are currently no biomarkers to monitor drug-induced vascular injury in human.
- Goal:
  - To qualify translational safety biomarkers for monitoring DIKI, DILI and DIVI **in humans.**

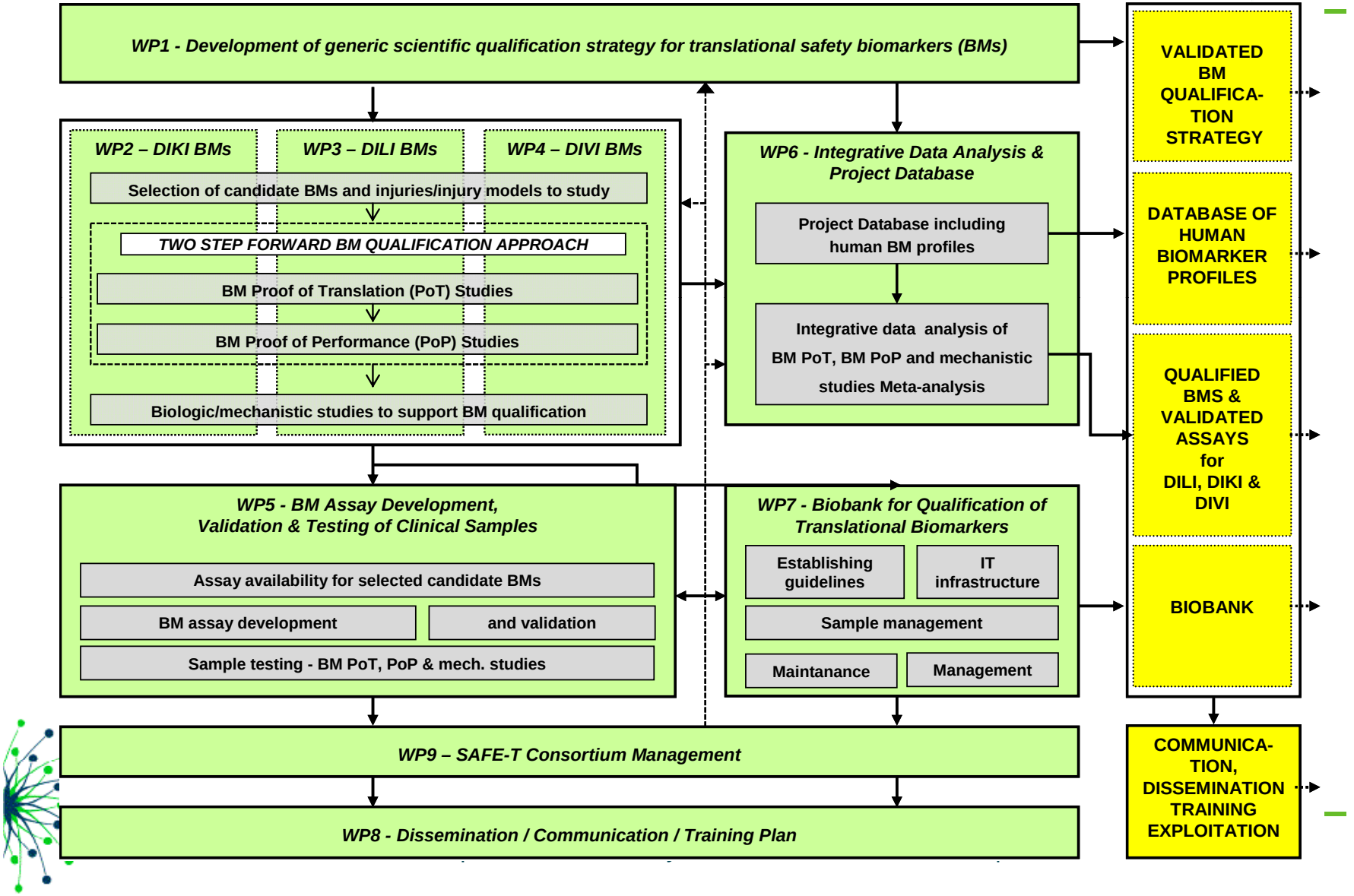


SAFE-T: Partners

- EFPIA (11):
  - **Novartis (Coordinator of the SAFE-T consortium)**
  - Almirall
  - Amgen
  - Pfizer
  - Hoffmann La Roche
  - AstraZeneca
  - Bayer Schering Pharma AG
  - Boehringer Ingelheim
  - Eli Lilly
  - GlaxoSmithKline
  - Sanofi Aventis
- External Advisors :
  - European Medicines Agency
  - FDA (proposed)
- Academic (5):
  - Barcelona Cardiovascular Research Center
  - Charité Hospital
  - Groupe d'Etudes et de Recherches en Médecine Interne et Maladies Infectieuses - APHP
  - Groupe Hospitalier Pitié Salpêtrière - APHP
  - Natural and Medical Sciences Institute
  - Tel-Aviv (Souraski) Medical Center
- SMEs (4):
  - **Firalis SAS (Coordinator of the Initial Applicant SAFE-T consortium)**
  - Argutus Medical Limited
  - Experimental & Diagnostic Immunology GmbH
  - Interface Europe

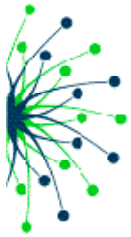


SAFE-T: Project Overview

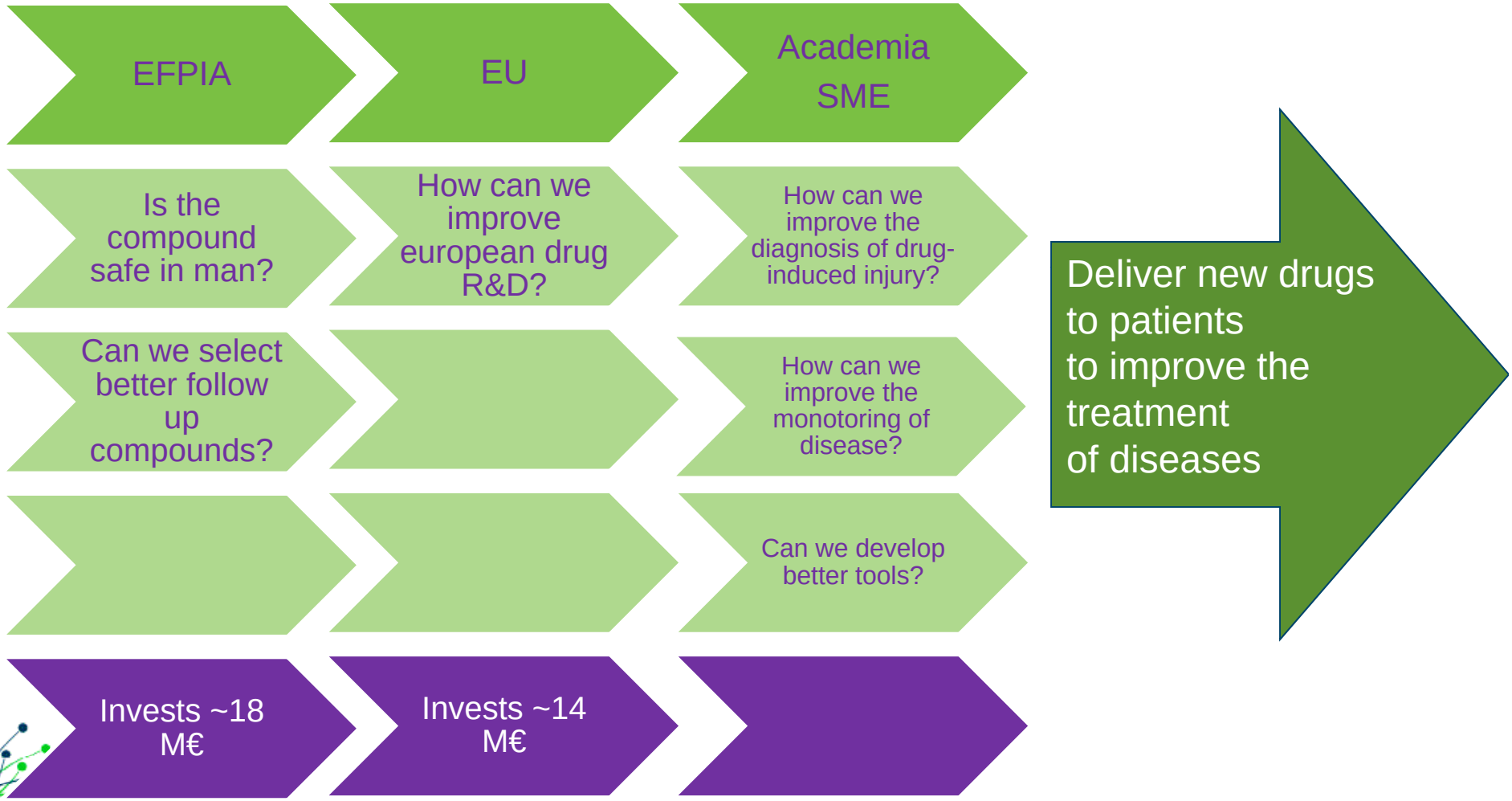


SAFE-T: Facts and Status

- Duration: **5 years, 35.8 Mio €** research budget
- Kick off meeting June 15, 2009 – first IMI project that started
- Governance structure
  - Steering Committee (Project coordinator Frank Dieterle, Novartis)
  - Scientific Advisory Committee (Scientific coordinator Ina Schuppe Koistinen, AZ)
  - Work package leaders, task leaders
  - Ethical Committee, IP Committee
- Project work ongoing according to plan, first deliverables
  - Scientific biomarker qualification strategy
  - Prioritised list of DILI/DILI/DIVI biomarkers for qualification
  - Clinical study templates/plans



SAFE-T: Common Goal



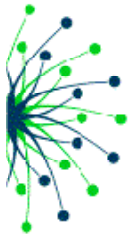
SAFE-T: management of IP

1st Consortium Meeting after EoI selection	Full proposal	Negotiation of Grant Agreement
Agreement for working together	Identification of background IP and definition of IP principles	Finalisation of Project agreement and signature (14.06.09)

- A need for good communication between partners:
  - Identify the various interest
  - Define who brings what?
- SAFE-T: definition of a specific IP regime
  - Biomarker IP
  - Technology IP
- The preparation of the Project agreement need to be supported by a neutral body to ensure that all interests are met.
  - SAFE-T Project Agreement prepared and agreed in 4 months

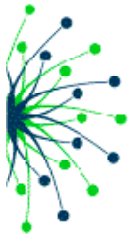
Some words of advise

- Study the Call text carefully
  - All components need to be addressed in the consortium
- Different from FP7:
  - Project coordination typically by EFPIA representative
  - Application + consortium formation process
  - The primary goal is not performing cutting edge research for the purpose of research but to achieve the stated objectives
- Include an appropriate number of partners
- Do not under-estimate the time required for preparation of the EOI
- Communication, communication, communication



Personal Reflections

- Focus on science
  - Interaction with Pharma as scientists sharing the same vision
  - Possible to reach broad scientific consensus on new safety biomarkers
- Focus on the common goal
  - New medicines for the treatment of diseases
  - Improved understanding of the molecular mechanisms of drug-induced injuries
- Recognise the power of the IMI-JU
  - Unique opportunity to work across disciplines
  - Large project budget
  - Cross-fertilisation EFPIA, Academia/SME and EMEA



The Scientific Challenge is to qualify translational safety biomarkers