Biomaterials and TE Research & Innovation in The Netherlands

Indo-Dutch workshop on Life Sciences & Health
Trivandrum, India, 21-22 january 2010

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PPP consortium setup to push RM forward: BMM
BMM's Vision

- Biomedical materials play a key role in enabling medical breakthroughs in healthcare which are essential to meeting the increasing demand for more efficient and effective medical treatment that can respond to socio-economic trends

- BMM is a Public Private Partnership (PPP) dedicated to the development of novel biomedical materials and their applications

A truly unique combination of partners joins its R&D efforts in BMM

- The BMM partners cover the whole knowledge and value chain
  - Companies in Life Sciences, Materials, Medical devices, Biotech, Biopharmaceuticals
  - Large companies, SME's and high tech start-ups alike
  - Universities, knowledge institutes and University Medical Centers
  - Charity and healthcare organizations

- None of the partners will be able to achieve the objectives by itself
  - Each party will contribute unique expertise and experience
  - Multi-disciplinary R&D requires the participation of all partners
  - Cooperation is crucial for the exchange of expertise and know-how

The objectives will be achieved through a strong public-private partnership

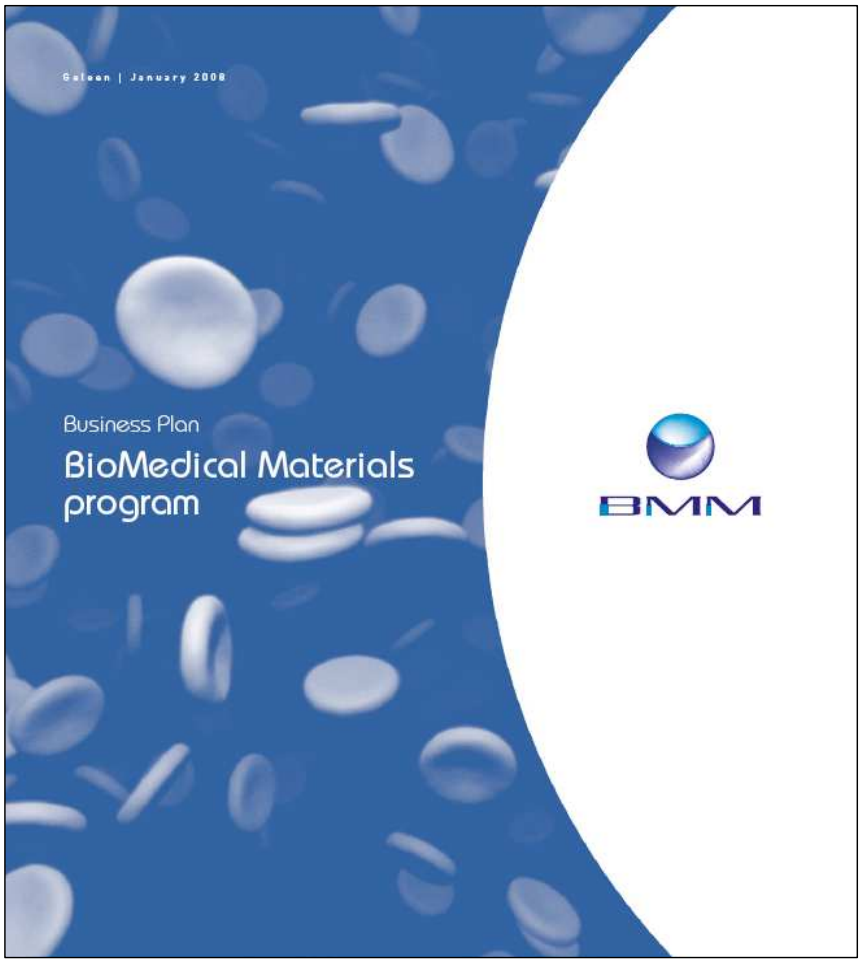
45 M€ from partners,
45 M€ from Dutch government
for a 5 year program

The outcome is important for society

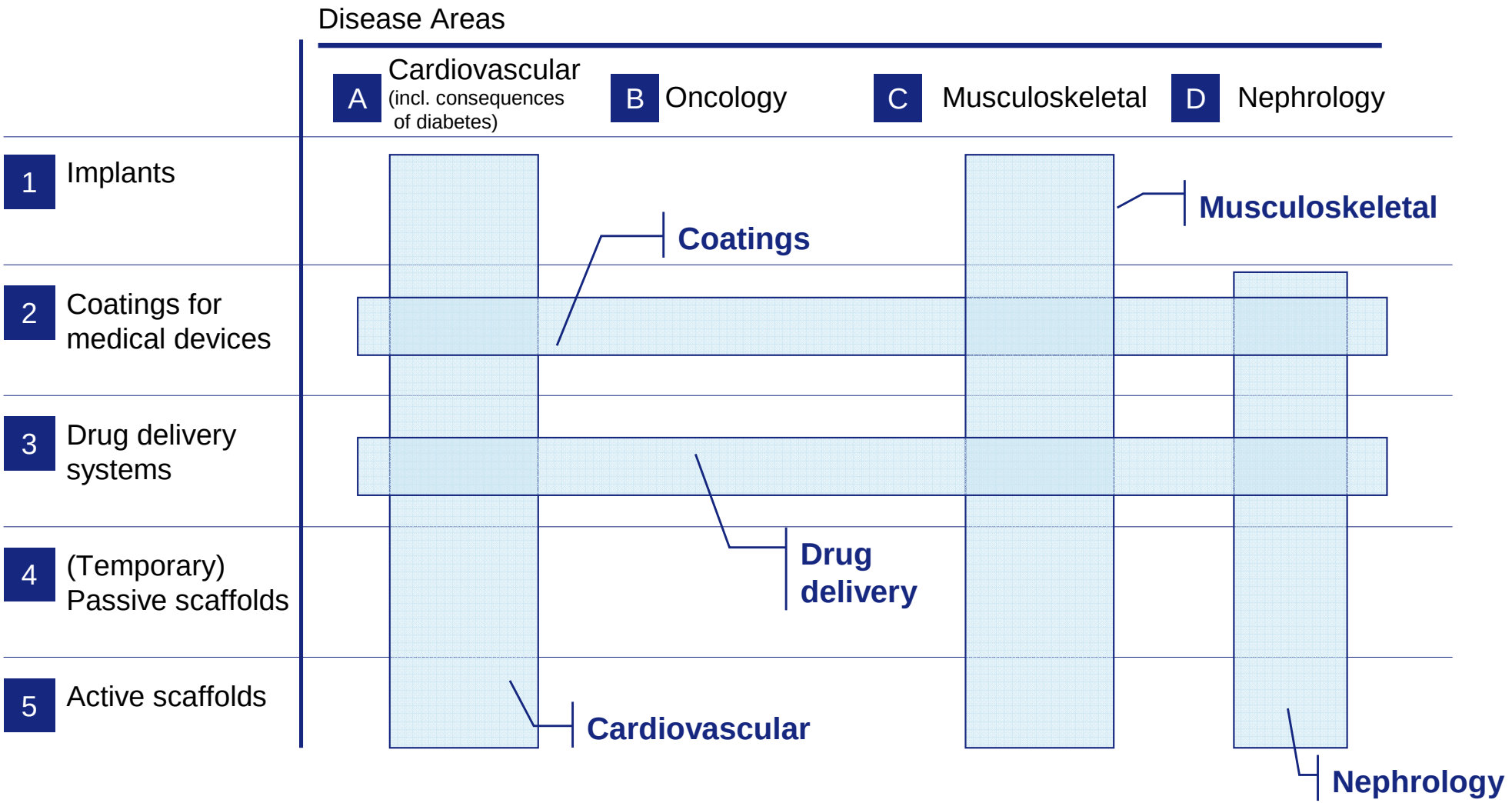
- BMM will create a strong knowledge infrastructure for RM
  - education of a new generation of highly talented academics
  - 150 new research positions in academia and industry
- Increased innovation and investments in a new and globally competitive technology
- Ample opportunity for start-ups, often the drivers for economic growth and employment of people
- Opportunity to attract foreign investments and companies, and for international cooperation
- Societal relevance and direct relation to healthcare and wellbeing
- Contribution to containment of direct and indirect costs of healthcare

Scientific, clinical, economic value creation

All partners have contributed to define the Strategic Research Agenda and Research Areas

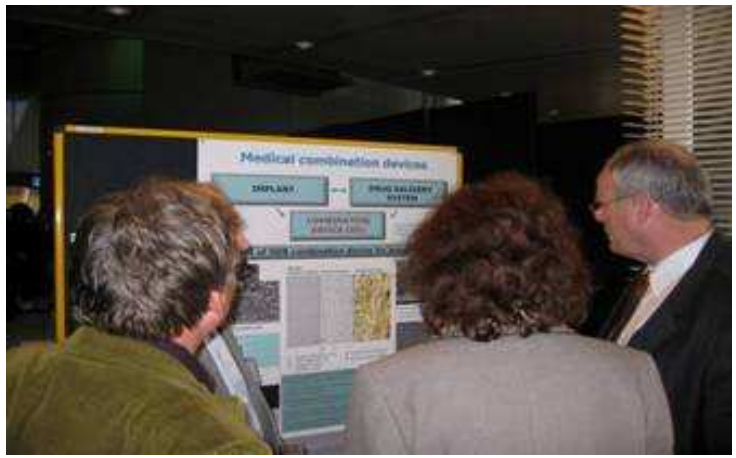


BMM's research program comprises five closely interlinked Research Areas



The BMM Networking and Information Days attracted over 200 scientists interested in participating in BMM

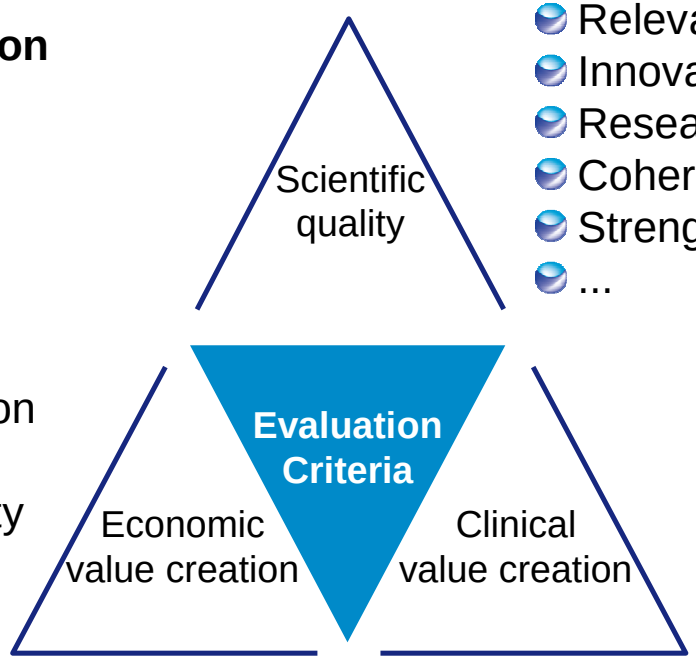
BMM Networking and Information Days in the Evoluon in Eindhoven, Netherlands



- Presentation of themes, ideas and concepts for projects within the BMM framework in a poster-session
- Consortia have been established, and new ones are being formed
- Details on the call for proposals and related topics such as finances and IP
- Timeline and activities towards the approval of the research projects
- **Approval of the first projects occurred in June 2008, second round June 2009**

All proposals must score at least "good" on scientific quality, economic and clinical value creation

Economic value creation
- Economic benefit for Dutch industry
- Products, therapies and/or services with commercial value
- Foreground IP with commercial valorization prospective
- Entrepreneurial activity
- Knowledge dissemination

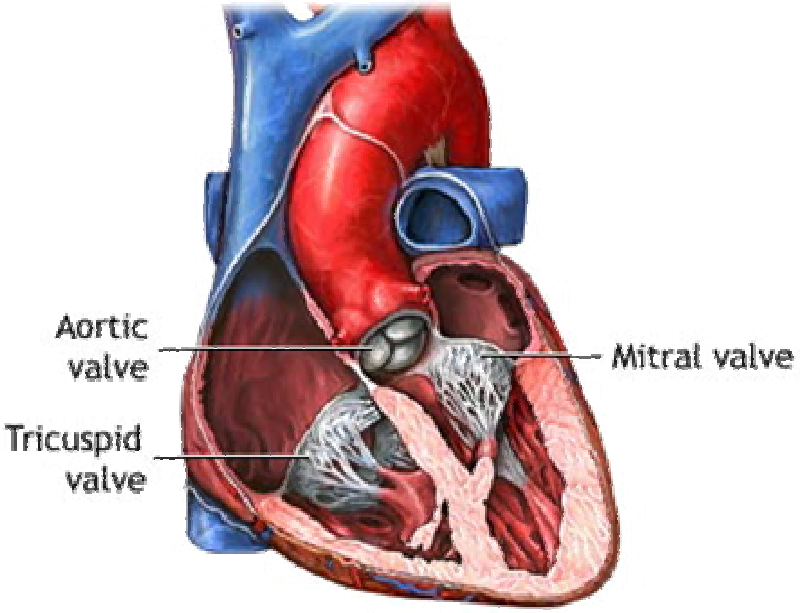


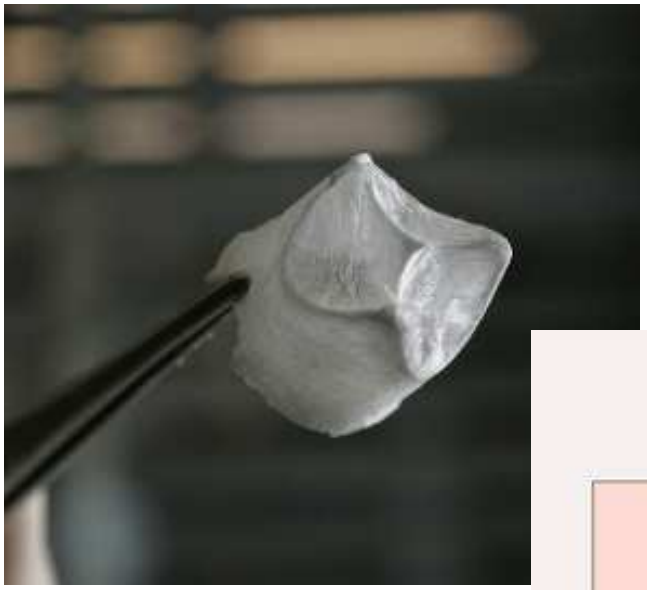
Scientific quality
- Relevance
- Innovativeness
- Research method
- Coherence
- Strength of the consortium
- ...

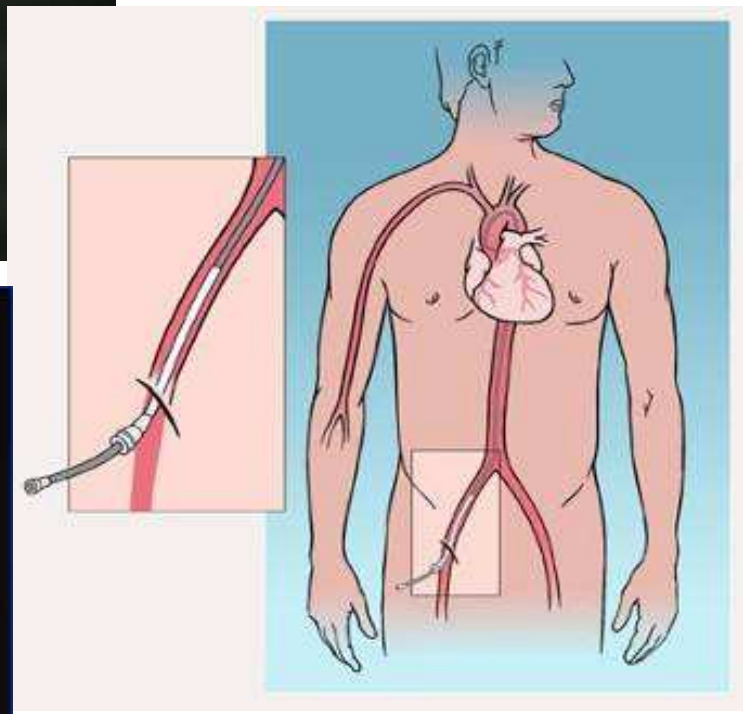
Clinical value creation
- Excellence of (pre)clinical objectives
- Contribution to a cost effective Dutch healthcare system
- Innovative therapies with a clear patient benefit
- Knowledge transfer to the healthcare system

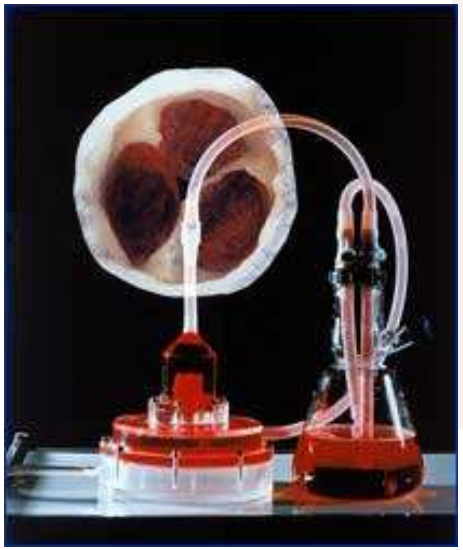
Scale on which project are ranked	Excellent	Very good	**Good**	Below average	Poor

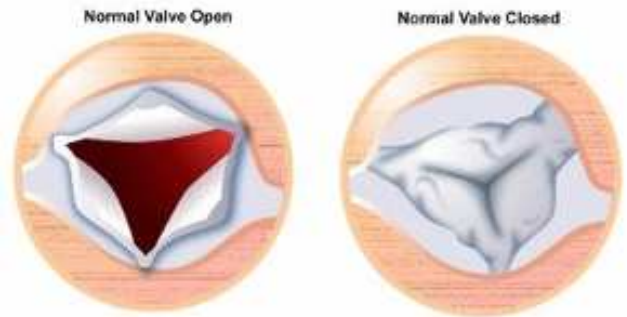
What will we do: Cardiovascular, heart valve from autologous cells



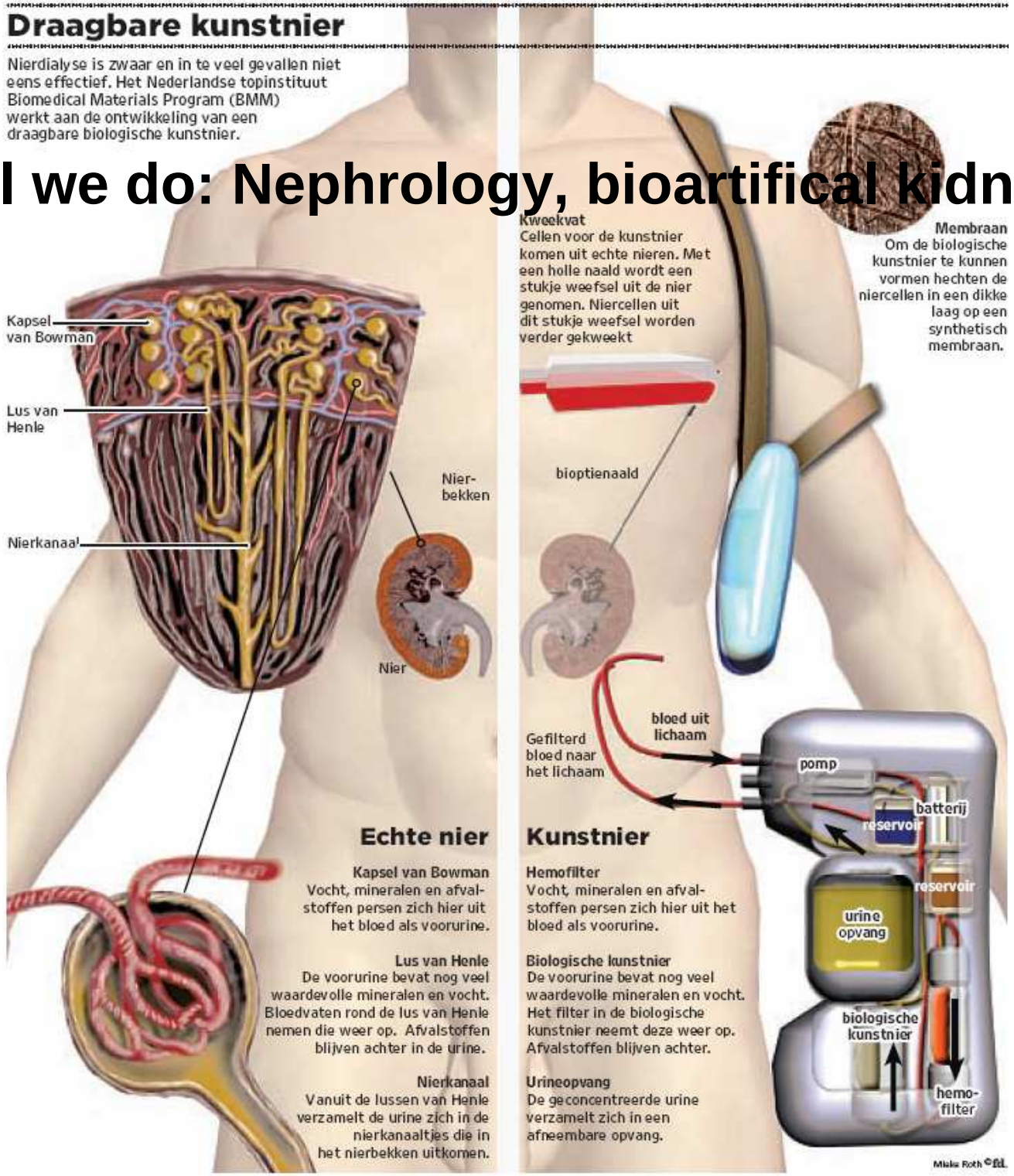




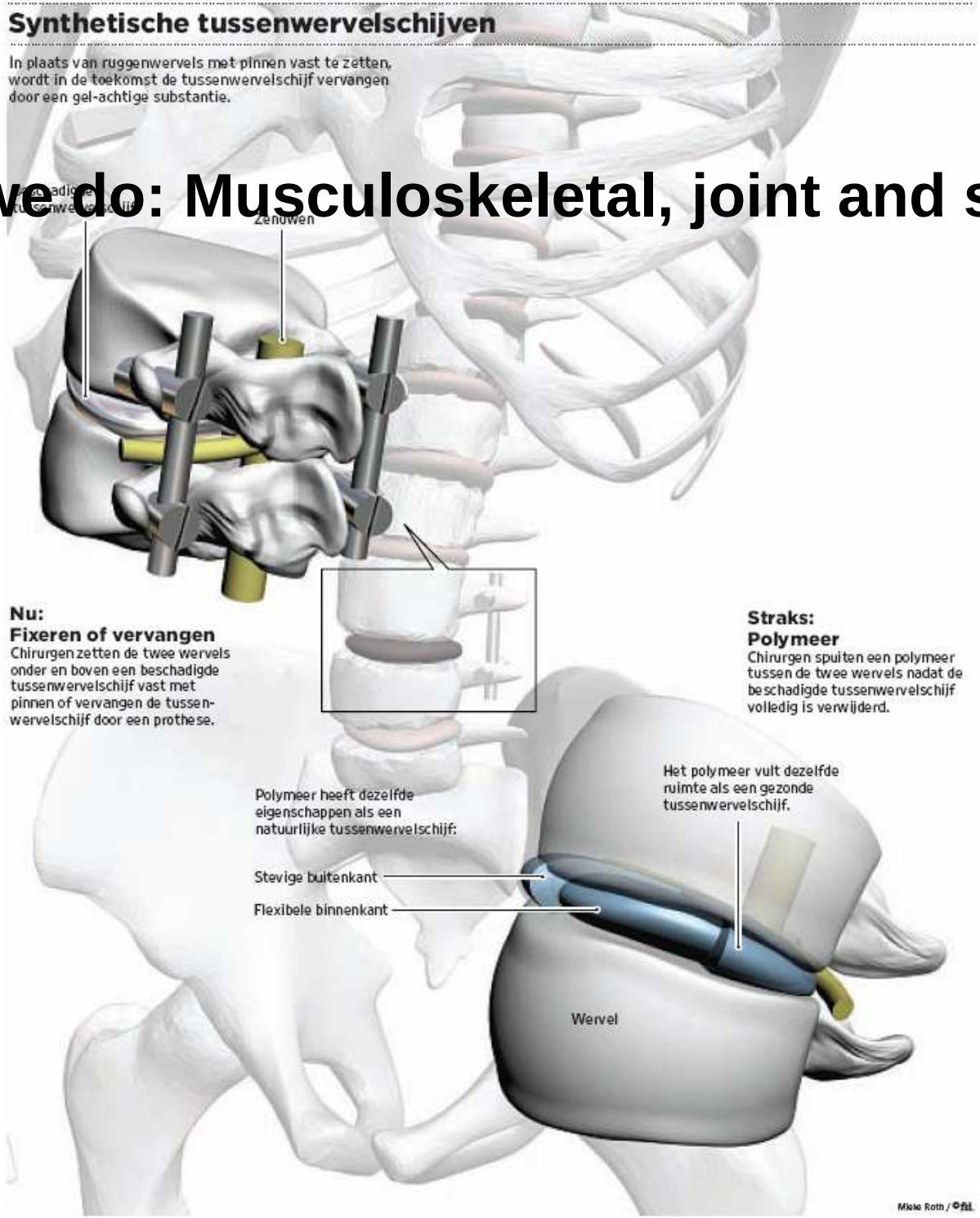




What will we do: Nephrology, bioartifical kidney



What will we do: Musculoskeletal, joint and spine



Indo-Dutch collaboration on RM?

- Topics te be determined during this workshop
- To my regret no participants from the Netherlands' RM network
- We can focus on specific RM topics for a follow up visit and organize a RM workshop in collaboration with BMM and other RM experts in Holland.
- Discussion & questions

Annexes

Creating Materials for Life

www.bmm-program.nl

Annex projects Cardiovascular

iValve a BMM project

Instructive synthetic **scaffolds** for in vivo repopulation by circulating **endogenous progenitor cells** for heart valves and small diameter arteries **“one valve for life”**

NEXTREAM a BMM project

New generation DES (Nur77) capable of **inhibiting restenosis** and preventing late **thrombosis**

PENT a BMM project

Polymer based drug delivery platform that enables local and prolonged delivery of growth factors for the **stimulation of neovascularization**

SMARTCARE a BMM project

Improve cardiac function in patients suffering from heart failure **by autologous microtissue delivery**

Annex projects Musculoskeletal

IDiDAS a BMM project

Intervention in primary intervertebral disc degeneration by the application of **injectable, biodegradable and biomechanically functional biomaterials** containing regenerative stimuli e.g. stem cells, growth factors, anti catabolic factors **inhibiting progressive degeneration**

OAcontrol a BMM project

Novel **resorbable biomaterials** capable of sustained controlled **local delivery of drugs** in the joint for the **treatment of osteoarthritis**

TRAMMPOLIN a BMM project

Development of a **meniscus implant** that will be **chondroprotective**, **releave** the patient's **pain** and **stabilize the knee joint**

Annex projects Nephrology

BioKid
a BMM project

Effective **clearance of protein bound toxins ex vivo** by mimicking the tubular secretion by means of a **biological kidney support device**

DESIRE
a BMM project

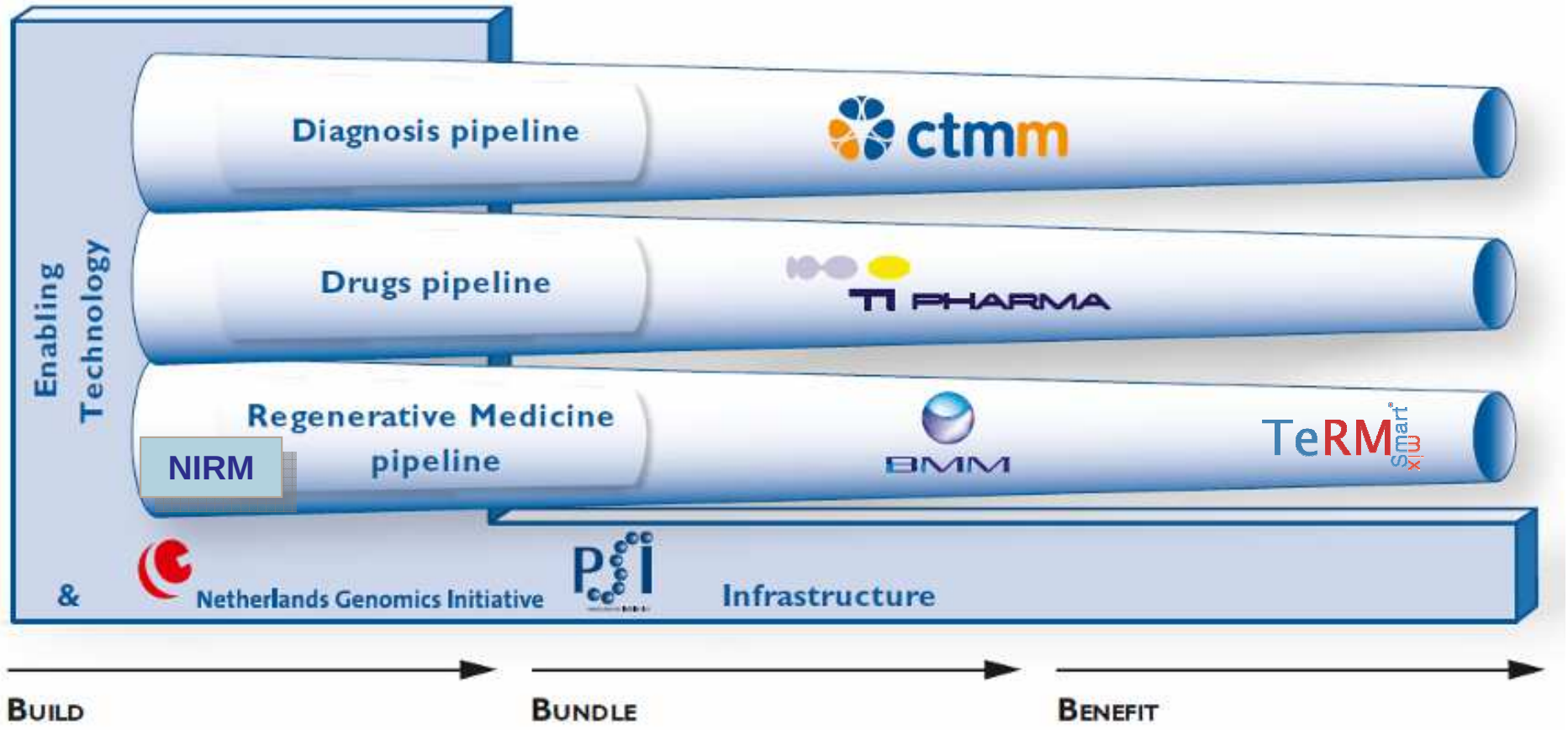
To generate a device for **smart intervention in renal repair**, a therapeutic strategy for **intrarenal modulation of inflammation** in chronic kidney disease

Annex project Coatings

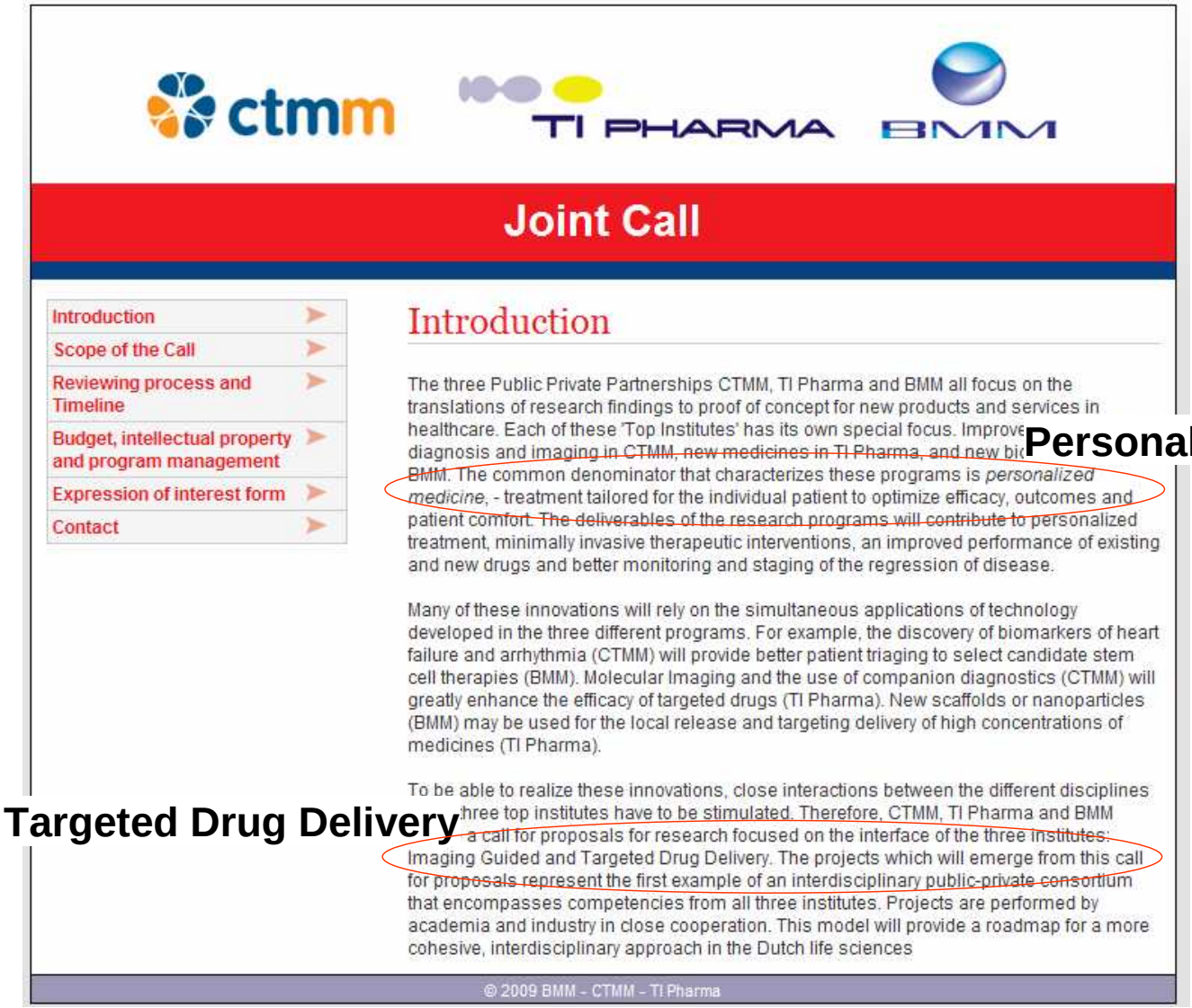
NANTICO
a BMM project

New materials coatings to prevent **biomaterials associated infections** (BAI) or facilitate new treatment modalities employing **on demand, antimicrobials releasing coatings**

Dutch pipelines for Medical Innovations



BMM opened a Joint Call for Proposals together with CTMM and TI Pharma



Personalized Medicine

Imaging Guided and Targeted Drug Delivery