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OF TAMPERE

# Regenerative medicine commercialization supporting innovation system

Manchester International Summer School on  
Emerging Technologies 2014

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## Introduction

- RQ: How university based research can be exploited to gain new commercial innovations and develop currently embryonic industry around BioMediTech?
- Currently 2 year (2014-2015) project funded by TEKES (Finnish funding agency for innovation)
- Presentation outline:
  1. RM sector
  2. Theoretical background
  3. Established framework
  4. Next steps
  5. Expected contributions



# 1. Regenerative medicine sector

- Third stream of healthcare (beside medicine and surgery)
  - Cell therapy, tissue engineering, gene therapy, tools and devices, regenerative compounds, aesthetics medicine
- Based on stem cells → Major issues regarding ethics (Solution induced pluripotent stem (iPS) cells)
- External cells (allogeneic therapies) vs. patient's own cells (autologous therapies)
- Route to market from basic research through animal studies to clinical trials



## Challenges in funding

- Start-ups need funding for research, development, small-scale manufacturing, and early clinical trials
- Venture capitalists are not interested to invest firms until in later phases of clinical trials
- Small start-up company may not be big enough to conduct required trials



## 2. Theoretical background

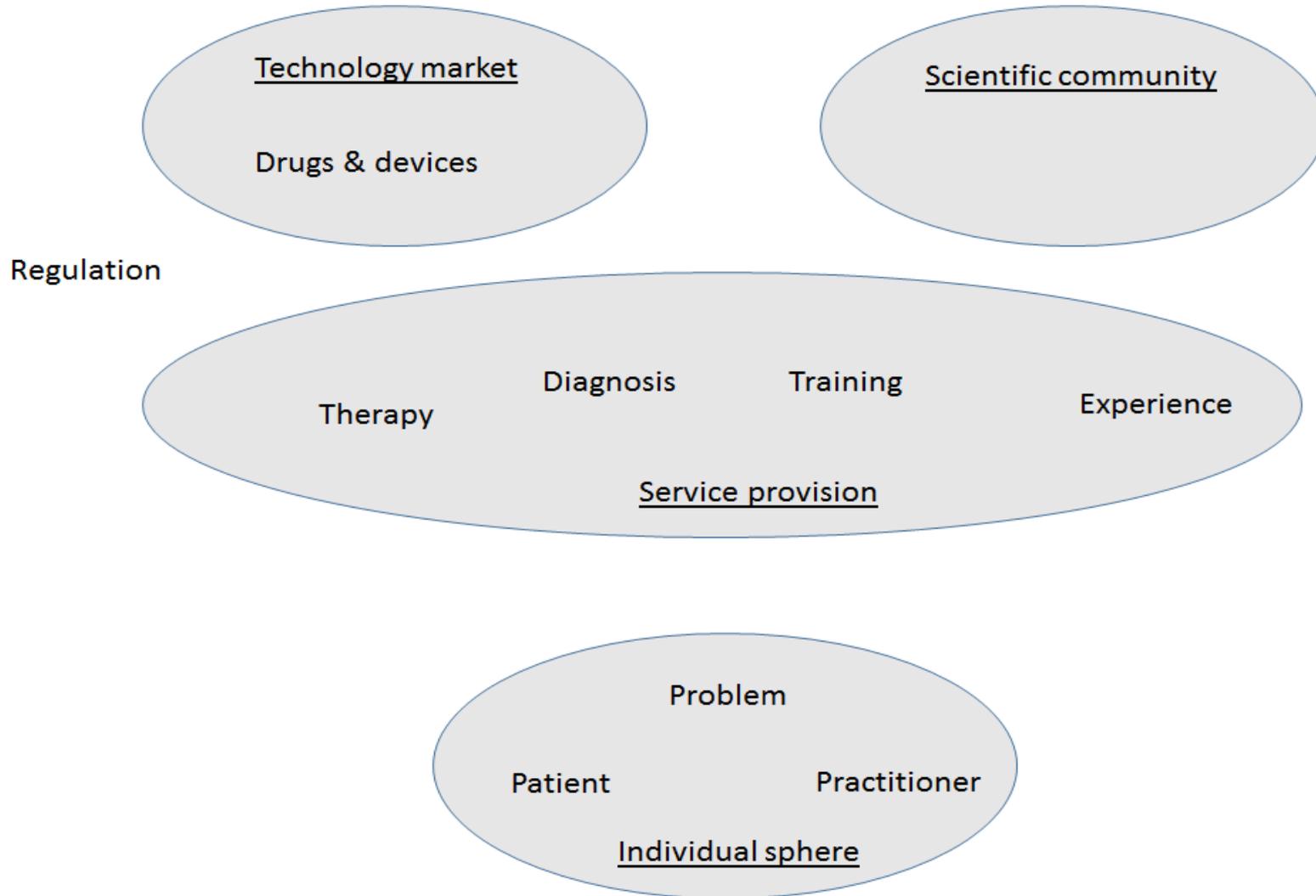


Figure: Health innovation system (simplified from Consoli and Mina (2009))



# Competence bloc theory

Actors	Tasks	Function in infrastructure
Customer	Active, competent and resourceful. Products are never better than customers are capable to demand.	Demand
Innovator	Connects technical specialities	Creation
Entrepreneur	Selects commercially potential innovations.	Selection
Venture capitalist	Recognize and finance commercially viable opportunities.	Recognition
Industrialists, business leaders and financial experts	Bring new product full-scale production.	Exploitation
Exit-market	Expectation for reasonable or better profit for those who are successful.	Incentive

**Competence bloc theory is developed by Eliasson and Eliasson (1996)**



### 3. Established framework

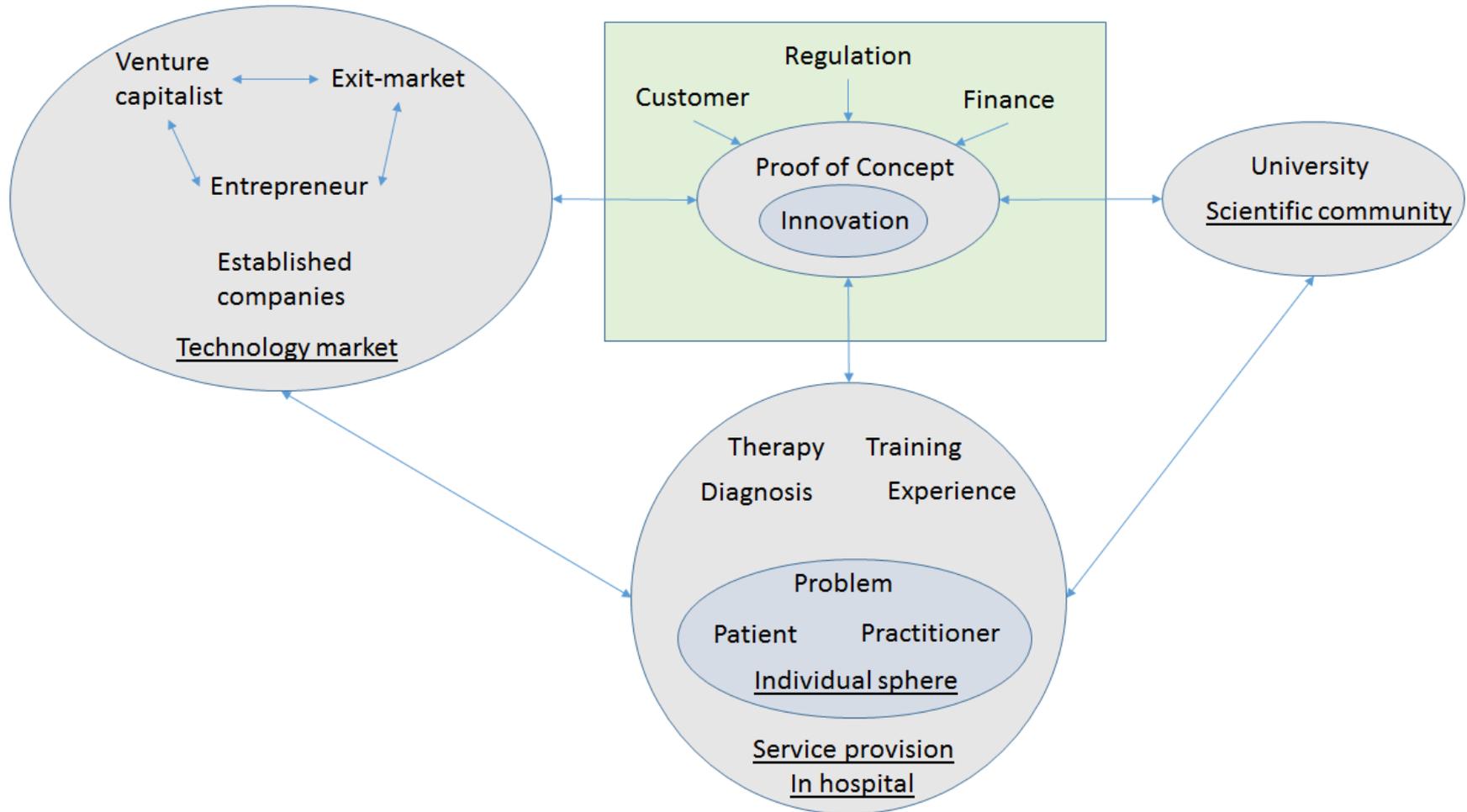


Figure: Proposed innovation centered framework for health innovation system based on RM literature and work done by Eliasson and Eliasson (1996) and Consoli and Mina (2009).



## 4. Next steps

- Empirical case study (validate and enhance the framework)
  - University hospital of Tampere
    - What it takes to enable deployment of new therapies?
  - BioMediTech (joint institute: University of Tampere + Tampere University of Technology)
    - How commercial side of innovation is managed in university?
- First 2 interviews conducted
- What I do not know yet, is, how to deal with technology market



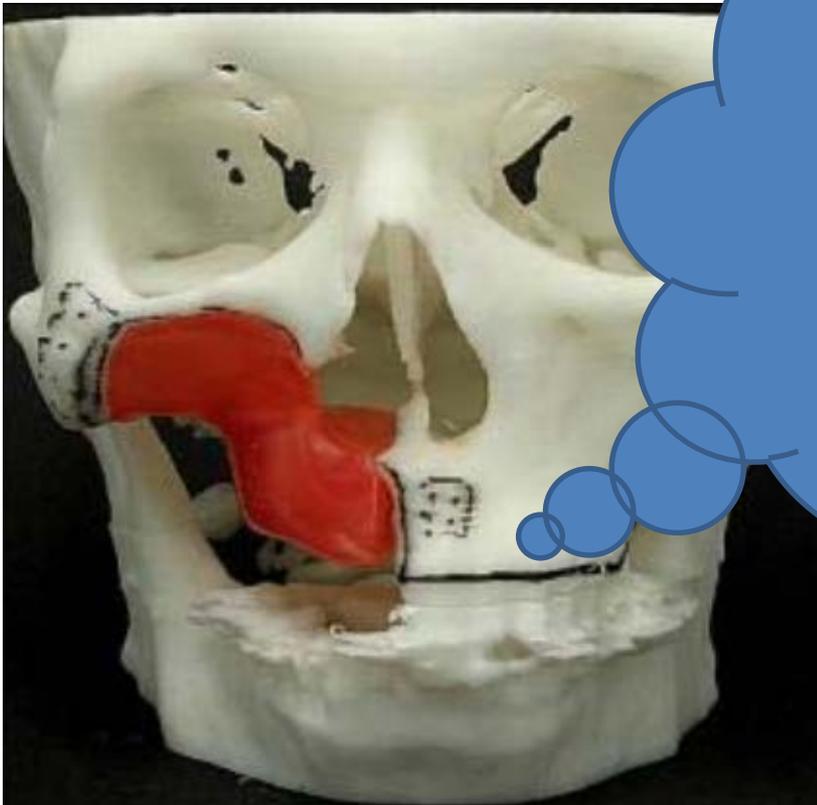
## 5. Expected contributions

- Focused innovation system approach linking innovation systems and innovation management
- University's commercialization process and how 'proof of concept' can be managed
- Understanding about hospital's role in innovation in RM sector



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Thank You!