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Managing the value chain of nanomedicine

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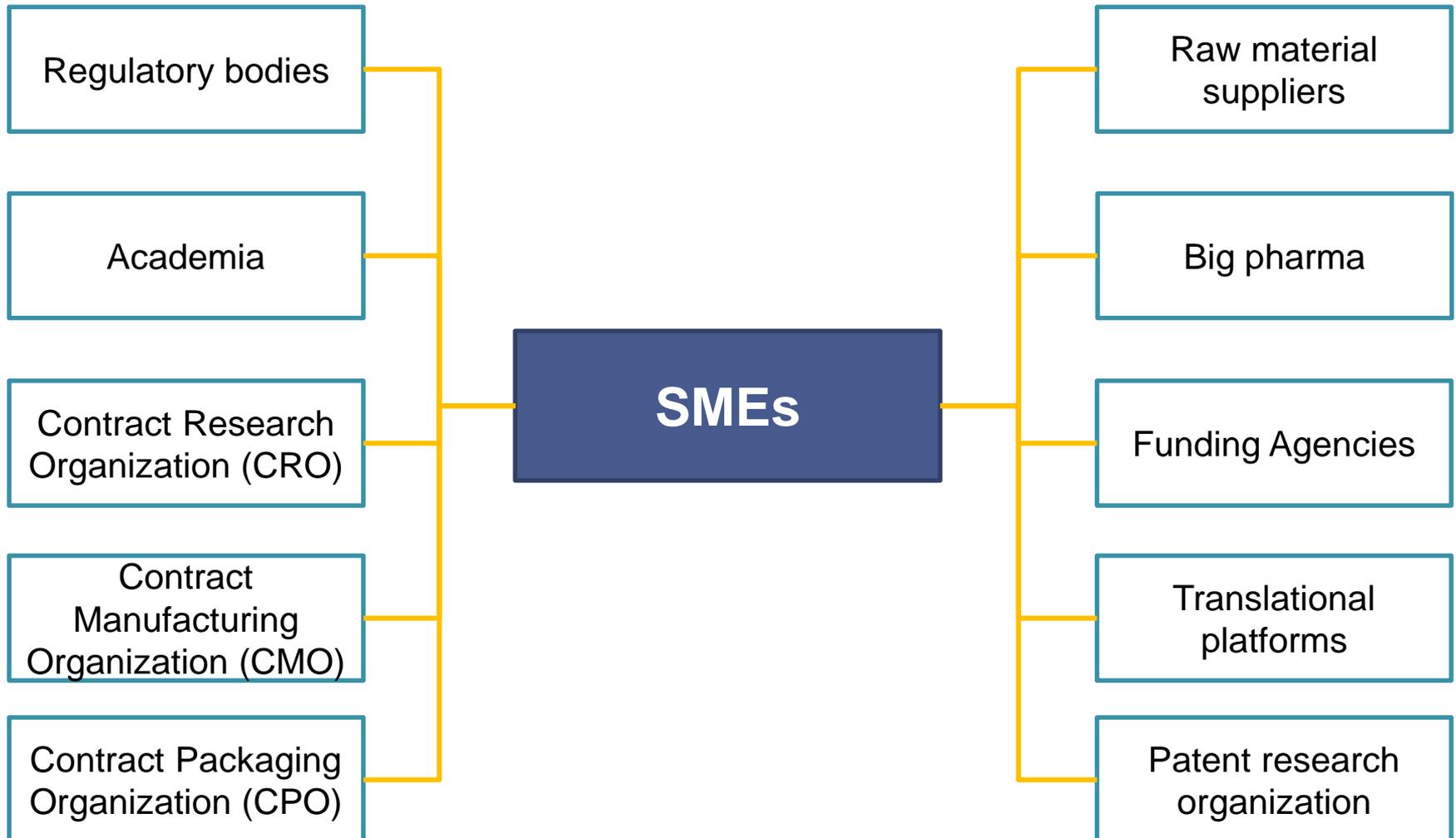
** Particles-Biology Interactions Laboratory

- ❑ Nanomedicine have many potentials but nanoscale brings new challenges
- ❑ Small and Medium Enterprises (SMEs) are thought to be the drivers of new technologies' development
- ❑ It is not possible for SMEs to bring a nanomedicine on the market alone
- ❑ SMEs have to collaborate with other stakeholders to bring a nanomedicine to market

1. Which stakeholders are involved in the value chain of nanomedicine?
2. Mapping the current number of Small and Medium Enterprises (SMEs)
3. Understand what interactions between SMEs and other stakeholders along the value chain may enable successful products
4. Point out the differences between nanomedicine value chain compared to more traditional value chains for pharmaceuticals

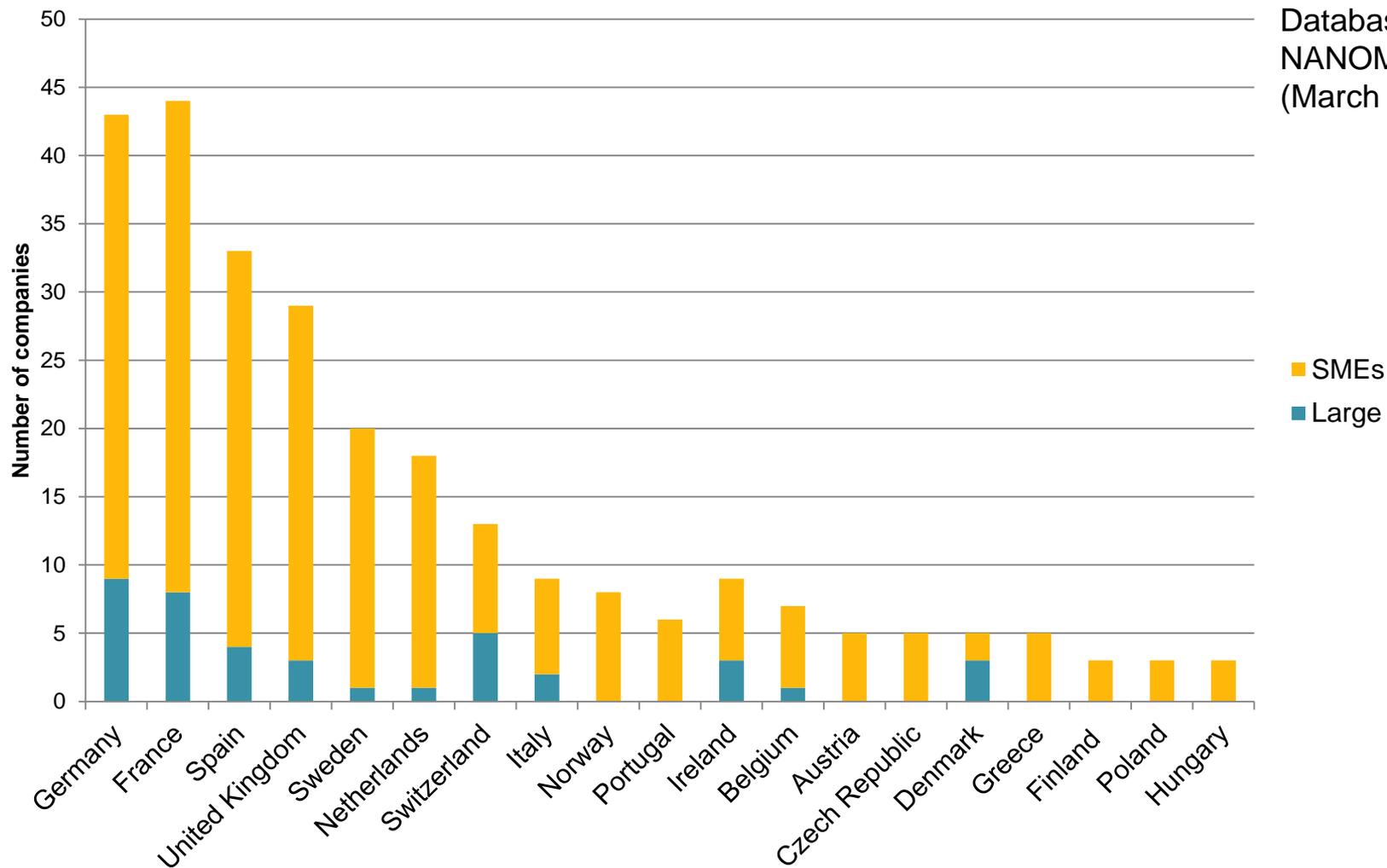
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Stakeholders of the value chain of nanomedicine



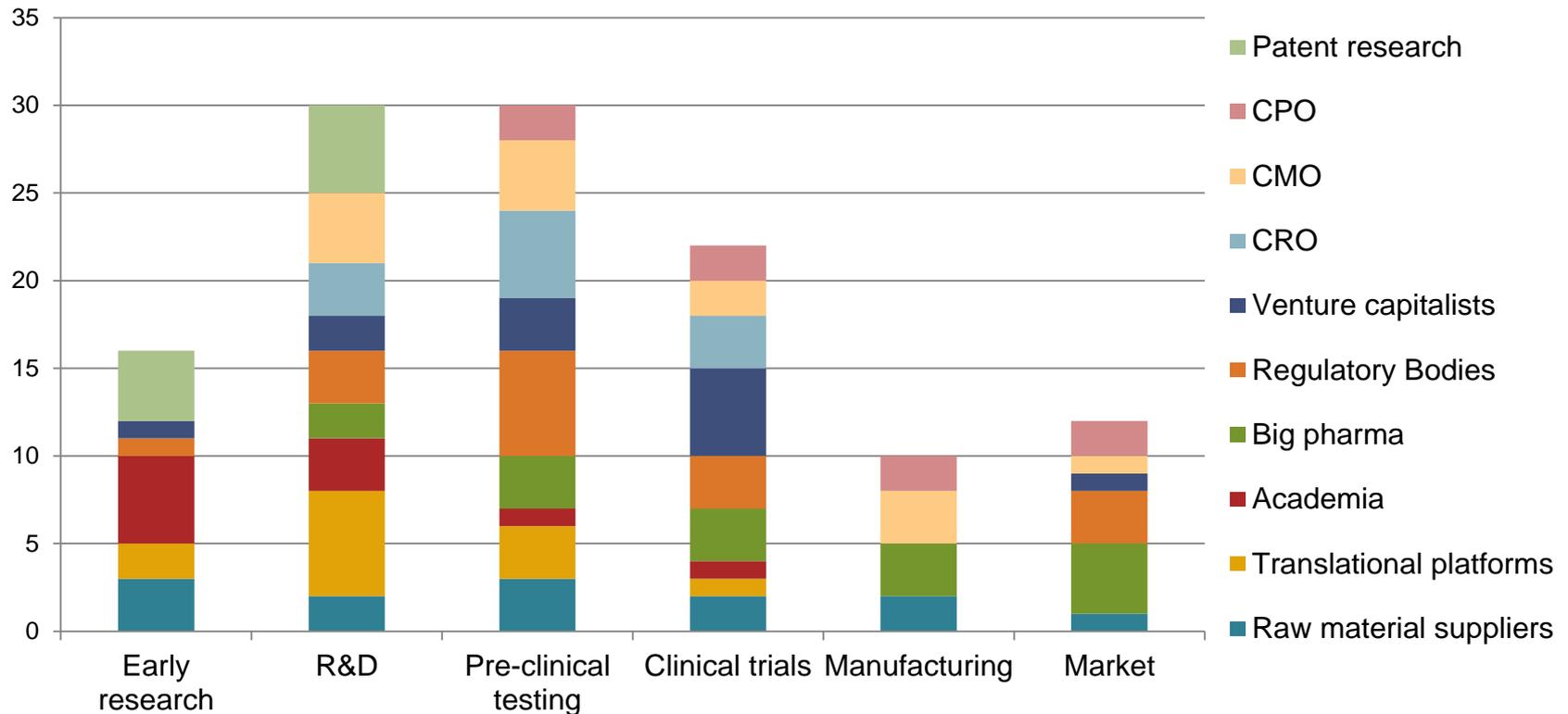
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Number of SMEs and larger companies in the therapeutic and drug delivery field in EU



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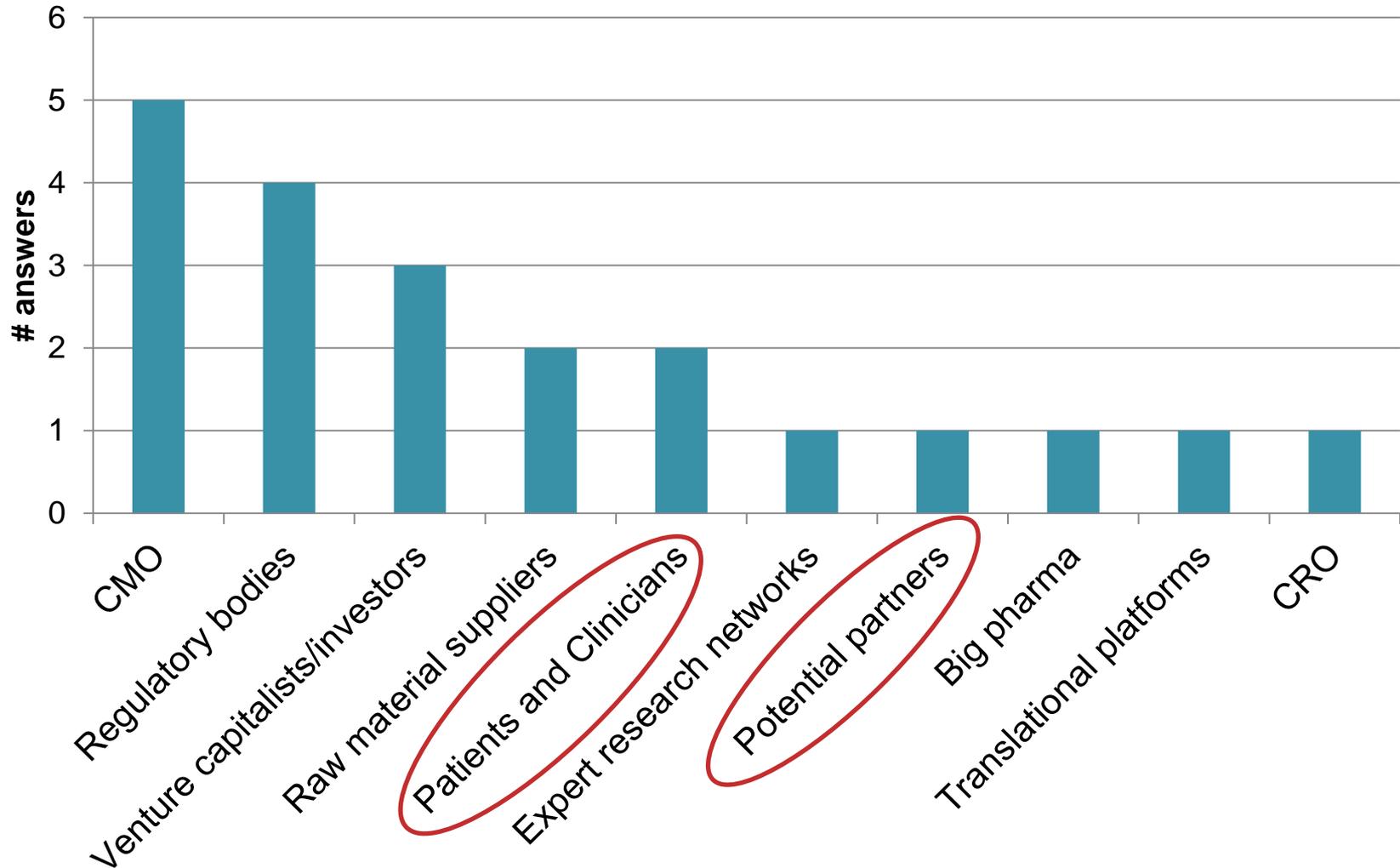
Interactions of SMEs with other stakeholders (SH)



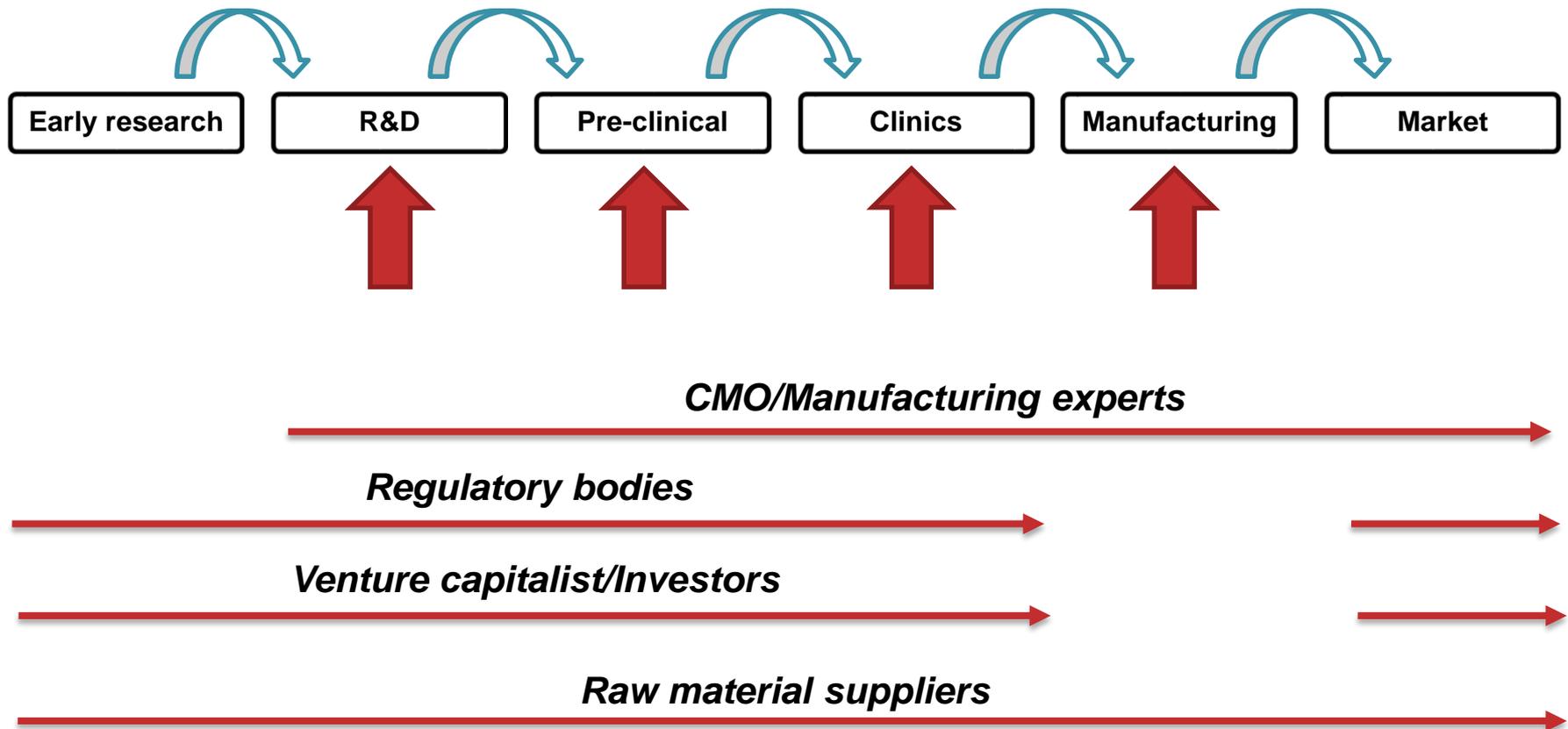
- Many interactions between SH and SMEs throughout the development phases of nanomedicine
- Some interactions are long term relationships
- Some other are more short term relationships

Interactions of SMEs with other stakeholders

Most important interactions for SMEs



Interactions of SMEs with other stakeholders



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Differences between the value chain of Empa nanomedicine compared to other traditional medicines and specific needs

Materials Science and Technology

Differences

- ❑ Lack of real nanomedicine experts
- ❑ Lack of Critical Quality Attributes (CQAs)
- ❑ Lack of data and validation
- ❑ Characterization and manufacturing (scale up) much more complex
- ❑ Interdisciplinary: nano and medicine

Needs

- ❑ Relevant expertise in the nanomedicine field
- ❑ Partners with initial knowledge in nanomedicine
- ❑ Identifying CQAs
- ❑ Sustainable business models
- ❑ External support
- ❑ Long term relationship with CMO

Conclusion

- ❑ SMEs should have good understanding of what are the relevant interactions along the value chain
 - ❑ CMO or manufacturing experts
 - ❑ Regulatory bodies
 - ❑ Venture capitalist/investors
 - ❑ Raw material supplier
 - ❑ Patients an Clinicians
- ❑ Knowledge of the regulatory requirements
- ❑ Nanomedicine experts
- ❑ Identify CQAs

THANK YOU FOR YOUR ATTENTION

Partners:

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Acknowledgement:

This project has received funding from the Horizon 2020 framework program of the European Union, ProSafe Joint Transnational Call 2016; from the CTI (1.1.2018 Innosuisse), under grant agreement Number 19267.1 PFNM-NM; and from FCT Foundation for Science and Technology under the project PROSAFE/0001/2016.