Generation O | Scaling Open Practices in Higher Education.

How can we help «openness-pioneers», «openness-innovators», and «openness-activists» change the Higher Education System?

Eine Initiative vom

GEFÖRDERT VOM

STIFTERVERBAND
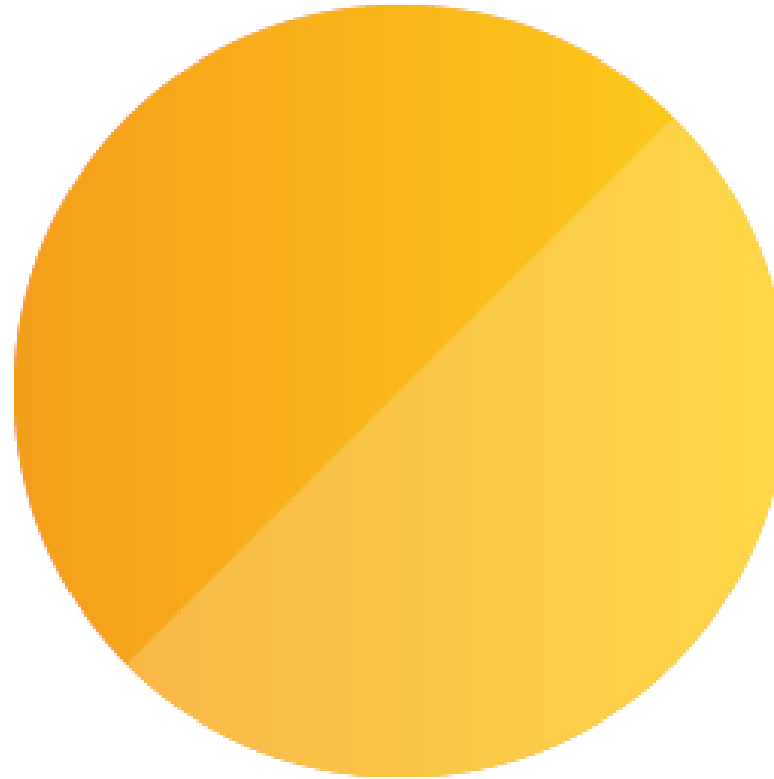
Bundesministerium für Bildung und Forschung

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Initiative for Open Innovation Culture

Our approach

Open
Innovation

Open
Science

Bringing Open Innovation and Open Science together –
in order to uncover the potentials of an
Open Innovation Culture

Open Research and Innovation - by Design

- Manage systemic innovation requirements

- Link existing knowledge more effectively

- Improve trust in research

- Increase relevance and impact of science & innovation

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Generation O |
Scaling Open Practices in Higher Education

- Margaret Hamilton / Born in 1936, the computer scientist and mathematician was a software engineer for the Apollo space flight. The computer code she developed made the first moon landing possible and incidentally invented the software system itself.

The shift to Open Science is strongly driven by individuals – Openness-Innovators
What challenges do they face and how can we support them?

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Potential needs and fields for action |
Perspectives of openness-innovators

Potential needs and fields for action

LACK OF CLEAR SOLUTIONS

OFTEN UNFORESEEN CONSEQUENCES

WICKED PROBLEM

SOCIALLY COMPLEX AND OFTEN NOT STABLE

REQUIRE CHANGING BEHAVIOR

MANY INTERDEPENDENCIES AND MULTI-CAUSAL

NO CLEAR RESPONSIBILITIES
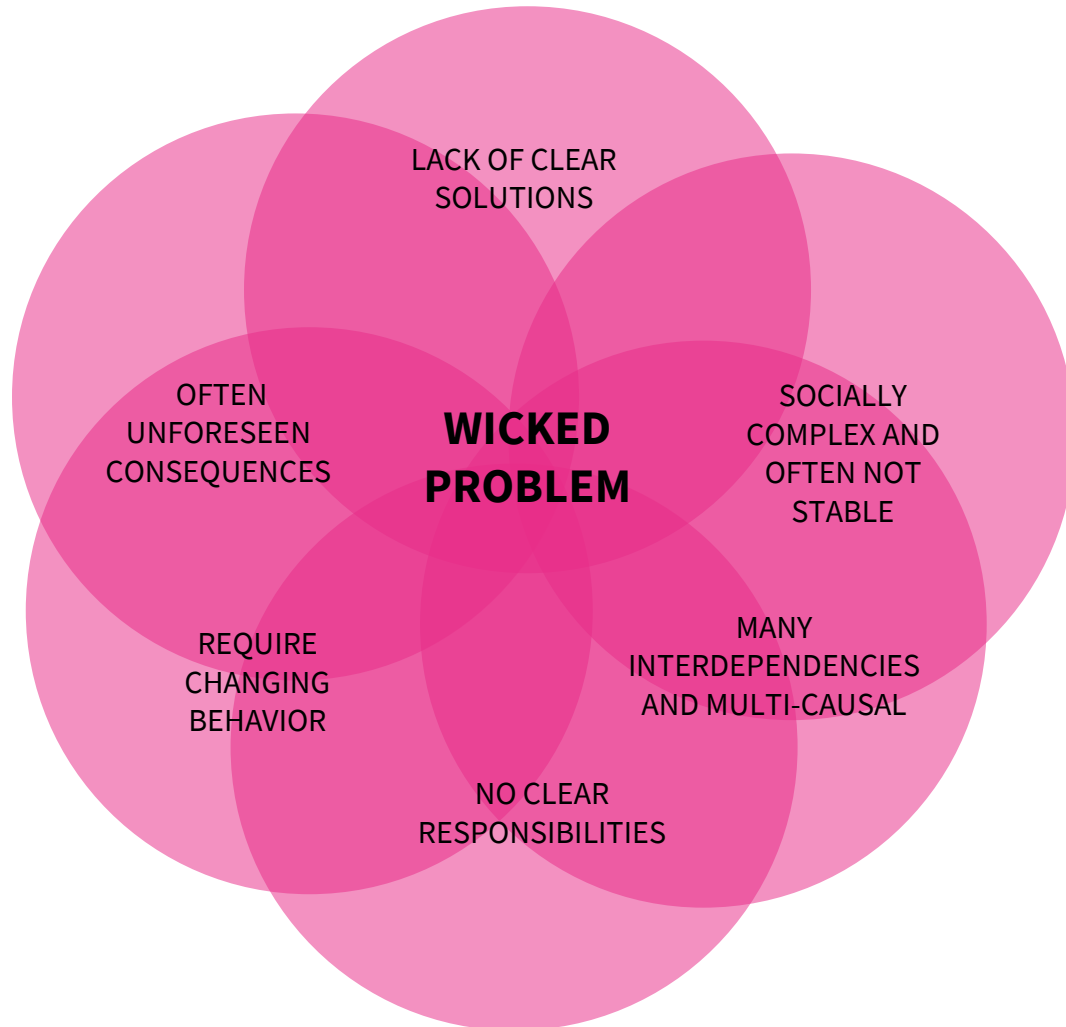
Open Science as a ,wicked problem'?

Potential needs and fields for action
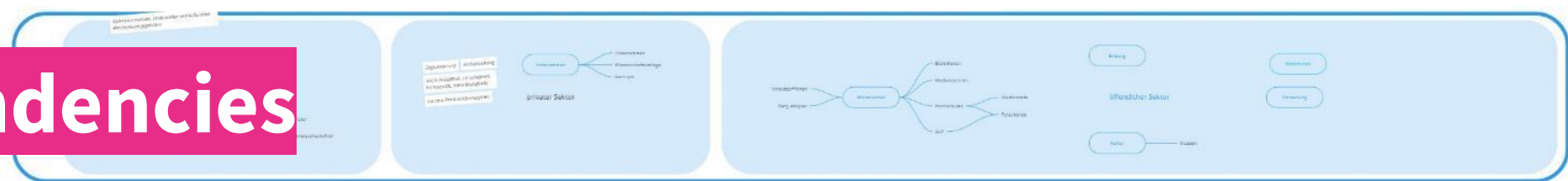

WICKED PROBLEM

Policy makers: Shape framework conditions for Open Practices
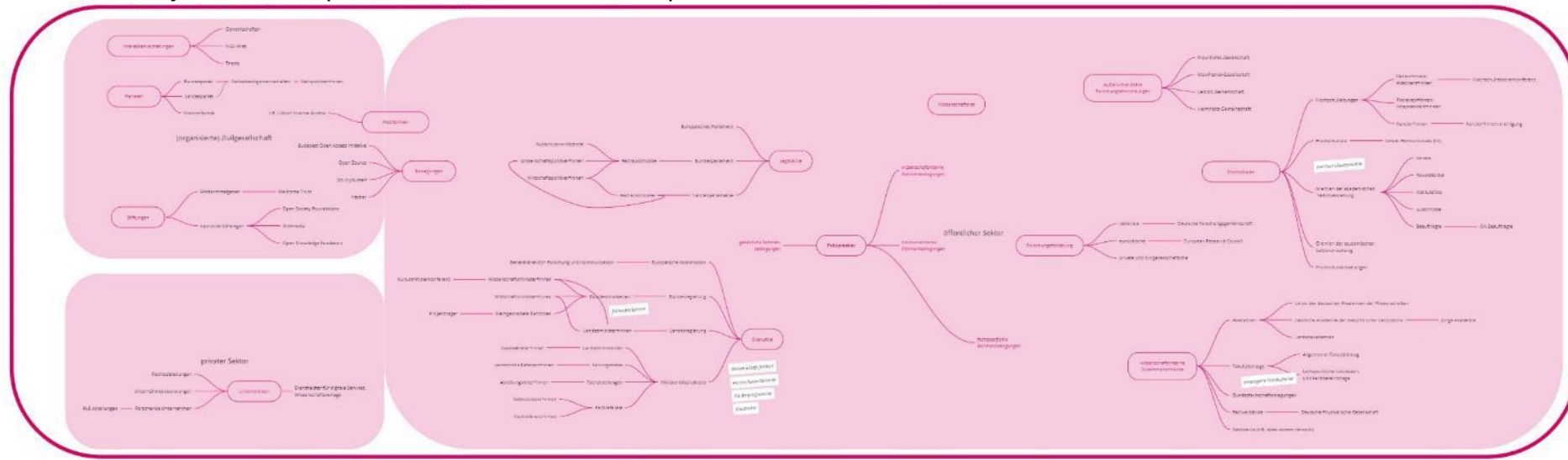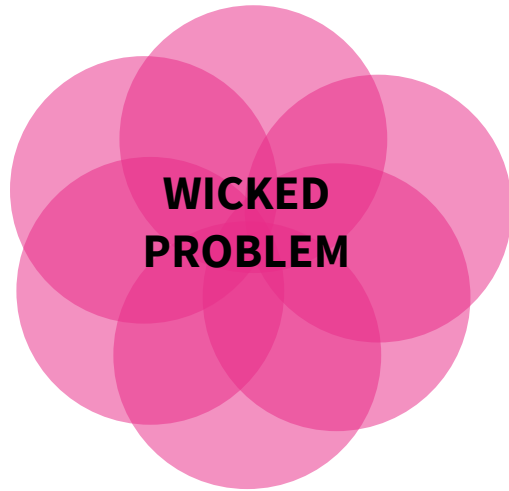
Enablers: Help to bring Open Practice to life

Innovators: Utilize Open Practice and generate social impact

Complexity & interdependencies

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Potential needs and fields for action

Change of perspective – some quotes

OPENNESS-INNOVATORS

If we put a focus on quality, research will be better off. Pre-prints, open data, and open code mean that others can collaborate, and at the same time, quality increases.

We started our own Open Science projects, but we didn't get very far with the toolset we were given at the university. For a different kind of research, we had to learn a lot of new things.

The university let us do it. But they said that if you want to stay in science: publish, publish, publish. Don't do too much on the side, be focused on your topic.

There are always people who no longer participate due to time constraints. We are also full time researchers. If I don't organize meetings, there won't be any. It depends very much on individual people.

Open Science is a non-issue in university management. There is no support, but no obstacles are put in our way either. (...) The fact that we hardly receive any funding is frustrating.

We have given up hope that the German Research Foundation will impose top-down Open Science requirements.

Open Science topics are referred from A to B and no-one feels responsible. (...) The feeling prevails that we have no power to initiate changes on a structural level and should therefore surrender to the system.

We cannot convince deniers with the "openness" argument. Rather, it makes sense to find suitable solutions to the problems of skeptics.

Potential needs and fields for action

Change of perspective – some quotes

OPENNESS-ENABLERS

Open Science became part of the university strategy because there was funding for it. (...) I would like us to do Open Science not only for the sake of money.

At the university, there is no central structure but a multitude of individual competencies that converge in working groups.

Some are more open to Open Science, while other colleagues are skeptical. They ask why they should publish their research data at all.

It acts like an innovation imperative that forces us all to continually do new things and think new things.

We need new job profiles and technical know-how. It is now difficult to find appropriate people or to train our staff. But we have to do it. (...) However, a lot of knowledge is always lost with project positions.

Companies I now come up with the term co-creation. They don't even open the door. It has to blink, clatter and be loud.

We must not simply provide infrastructure and resources, but create experimental spaces where things can be tried out, where people can work together. (...) The exchange of knowledge ultimately makes it possible to deal with problems in an informed way.

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Potential needs and fields for action

Change of perspective – some quotes

OPENNESS-POLICY MAKERS

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In Open Science, I have always signaled, do what you think is right. As university management, I did not take this on board.

My impression of Open Science is that there is a lot of commitment and will, but it has not yet reached the university as a whole. Everyone is just muddling along.

Rectorates don't know what their Open Science experts are doing. Two parallel worlds exist there.

Open Science arrives at university leadership and is delegated elsewhere.

I don't identify innovators at the university based on systematic analysis. It is much more gut feeling, successfully completed projects, feedback from the outside world. Then I approach these people and they get special roles as commissioners and a bit of money.

There is a lot of freedom for universities and no sanctions. (...) We don't want to get on the wrong side of the institutions.

Open Science must be demanded by science so that politics can act as a catalyst

A lack of knowledge about Open Science or fears of unknown implications lead to actors acting cautiously or slowing down developments. (...). However, there are also strategic reasons depending on the standing of the management or the resistance at the university.
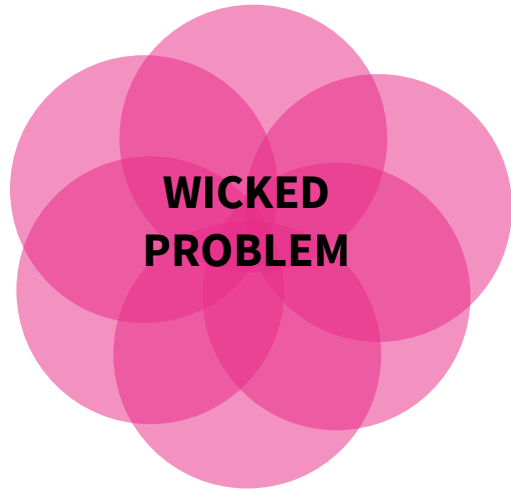
Federalism is not always beneficial. I would like to see greater cooperation between federal and state ministries. A common policy across Germany is desirable.

We are only a few employees for Open Science in the ministry, we give ideas and develop strategies with the universities. (...) It is complicated to reconcile all interests.

Potential needs and fields for action

WICKED PROBLEM

Many barriers, lack of clear solutions on the systemic level

[Lack of knowledge about Open Science among policy makers](#)	[Lack of strategic anchoring of Open Science in university management](#)	Little anchoring of Open Practices at universities	Autonomy of science narrows scope for political action	Few staff with open practice know-how
[None systematic identification and promotion of open-innovators at the university](#)	Low prioritization of open practice issues among university leadership	Dependence on subsidies and project funds	Pressure for innovation and change	Lack of exchange formats complicate stringent Open Science policy
[Limits of individual commitment](#)	Resignation among innovators due to limited scope for action and unclear responsibilities	Low appreciation and support for the commitment of innovators	[Outdated job profiles and lack of know-how](#)	Low awareness of Open Practices among companies as well
[Winning over skeptics and deniers for Open Science.](#)	[Open Science is not rewarded by the scientific reputation system](#)	[High time commitment to acquire new knowledge and skills](#)	[Funding policy is not aligned with Open Practices](#)	Lack of a uniform terminology
[Structures and hierarchies make it difficult for ope-innovators to get through with their concerns](#)	Digital and openness gap between generations	Inhibiting market structures and diverging interests between science and industry, e.g. for open access	Lack of innovation culture in many organizations	[Different open-communities](#)

INNOVATORS   **ENABLERS**   **POLICY MAKERS**

Possible solutions and opportunities | Recommendations for policy makers

Possible solutions and opportunities for systemic change

Strengthening the commonalities of the open discourses & communities: Unifying concepts, principles, practices & cultures

Incorporate Open Practices into job profiles and staffing decisions

Embed Open Practices in university strategies & development plans & create clear responsibilities.

Build Understanding of Open Practices, knowledge & skills across sectors

Professionalize Open Practices ugh structures, services, budget.

Promoting a culture of innovation in science, administration and ministerial bureaucracy

Identification, appreciation & support of open innovators, consideration of their concerns

Promoting Open Practices in other sectors

Consideration of open practice engagement in the scientific reputation system.

Policy co-design

Alignment of funding policies with Open Practices

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Possible solutions and opportunities for systemic change

Proposed starting points
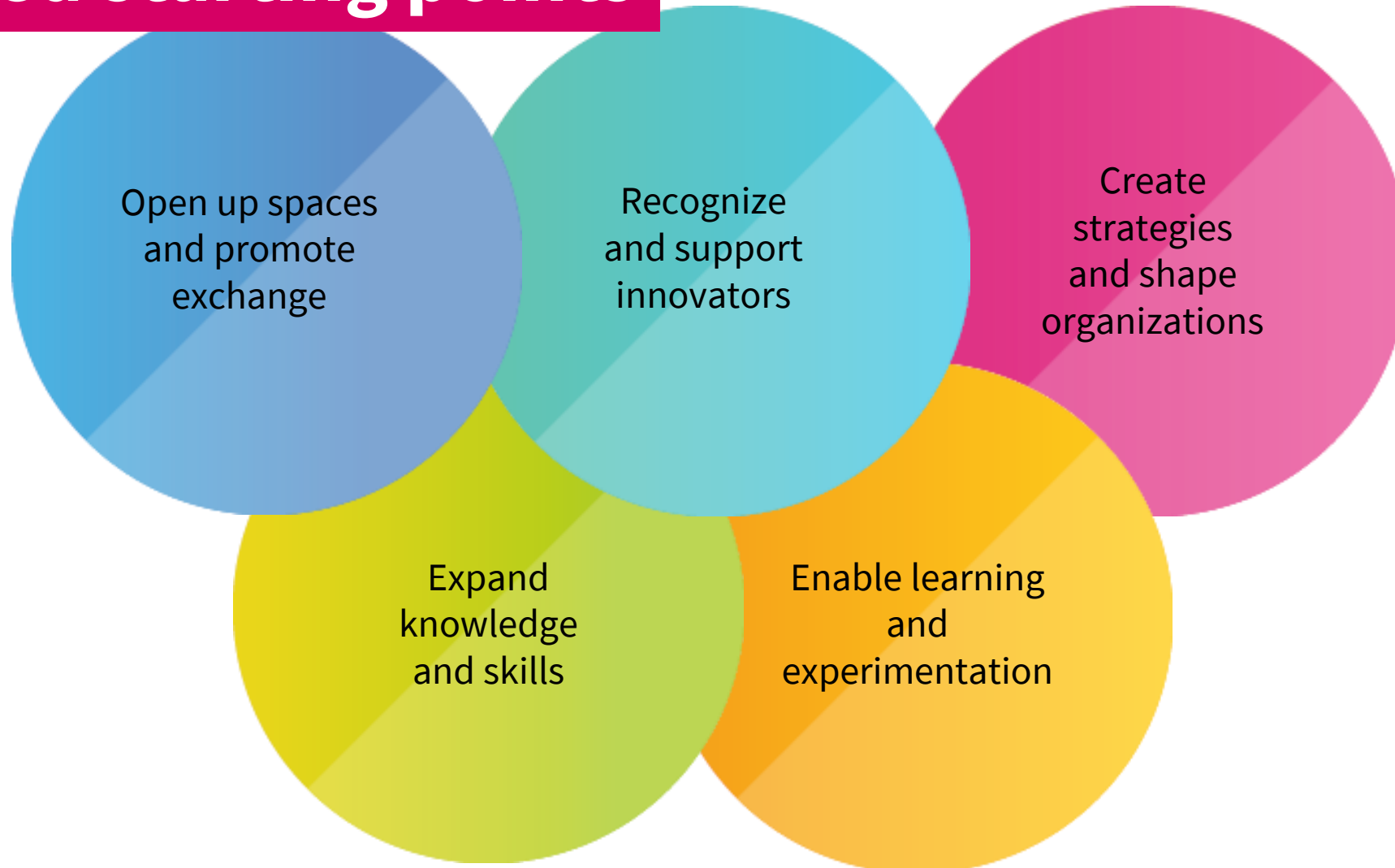
Possible solutions and opportunities for systemic change

SELF-ASSESSMENT TOOL & MATURITY MODEL for Open Practices

INCUBATOR for strengthening Open Science and social problem solving competence

ELECTIVE LEARNING MODULES as a certificated online course, combining research and practice

3 Prototypes from the innosci Future Lab Program

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Possible solutions and opportunities for systemic change

- Include Open Science activities and capabilities in grant and appointment criteria, career development

- Provide human and technical support structures

- Promote the acquisition of knowledge on the part of researchers and science managers.

- Gain access to (external) knowledge carriers through interdisciplinary teams, job rotation, fellowships

- Strengthen metascience

- Strengthen creativity and innovation through working methods

- Create local or digital meeting spaces via events

- Increase visibility and appreciation, e.g. awards

First steps & hands-on solutions for Higher Education

Possible solutions and opportunities for systemic change

What now?

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Thank you!
Join our Online-Community and stay in touch

Kontakt

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Eine Initiative vom

STIFTERVERBAND

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