
Tracing new "policy styles" in German STI policies

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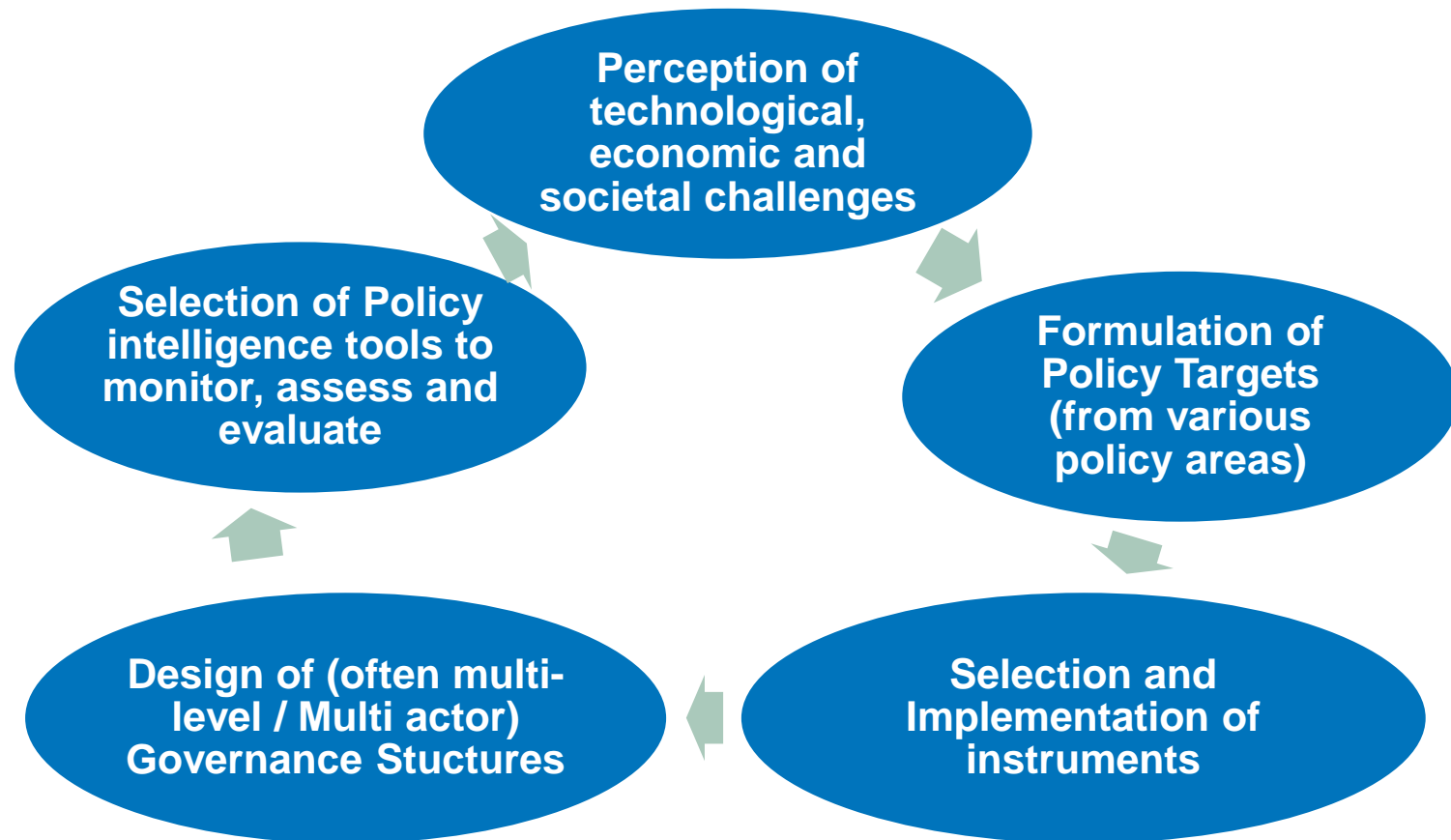
Background

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- Project commissioned by the German Expert Commission on Research and Innovation (EFI)
- Title: ‘New Role of the State in STI Policy (with special emphasis on mission-oriented approaches)’
- Project team: Joanneum Research POLICIES and Fraunhofer ISI
- Duration: 01/2020 - 08/2020

Are there new 'policy styles' and what are their characteristics?

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Task and approach

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Guiding questions	Approach
<i>Is there evidence for the emergence / diffusion of new policy styles?</i>	<i>quantitative analysis / text mining</i>
<i>What characterises these new policy styles?</i>	<i>quantitative analysis / text mining and qualitative analysis</i>
<i>Is there a specific / characteristic mix of instruments for each policy style?</i>	<i>quantitative analysis / text mining and qualitative analysis</i>
<i>Can we assess the effectiveness / efficiency of the new policy styles?</i>	<i>evaluation and monitoring reports + expert assessment</i>
<i>Shall policies be oriented more towards these new policy styles?</i>	<i>expert and policy debate</i>

4 ideal-type missions in STI policies

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	Goals	Obstacles/potential issues
A1	<ul style="list-style-type: none"> Increasing research output and scientific knowledge production in defined area 	<ul style="list-style-type: none"> Coordination of instruments and research actors Ensuring efficiency of means and resources used Setting up and implementing instruments, selection beneficiaries Creation of appropriate infrastructure and context conditions
A2	<ul style="list-style-type: none"> Creation of new infrastructure Adjustment of regulatory framework Bringing products to market 	<ul style="list-style-type: none"> Coordination of support schemes, regulation, interplay of different actors Transfer of knowledge (science -> economic actors) Management of insecurity about outcomes
T1	<ul style="list-style-type: none"> Substitution/Reconfiguration of existing systems 	<ul style="list-style-type: none"> Coordination of transformation process and policy mix Long-term orientation and strategic planning Translation efforts between different areas and from science to application
T2	<ul style="list-style-type: none"> Substitution/Reconfiguration of existing systems Change in behavior and attitudes 	<ul style="list-style-type: none"> Coordination of transformation process and policy mix Long-term orientation and strategic planning Translation efforts between different areas and from science to application Moderating transformation processes and changes in societal behavior Compensation of potential losers of transformation

Operationalizing the Framework: From types of missions to policy styles

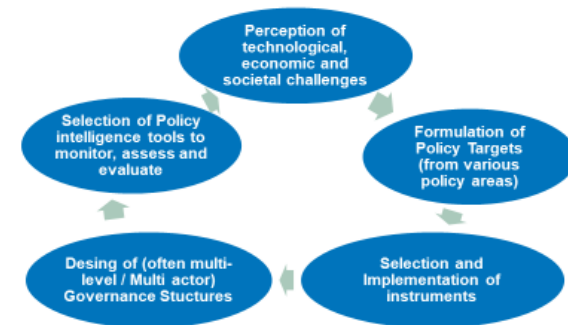
4 ideal-type „new“ policy styles along the four types of missions

	Accelerator Mission		Transformer Mission	
	Type 1 (A1)	Type 2 (A2)	Type 1 (T1)	Type 2 (T2)
Type of problem	Market failure	Market and structural failure	Transformational system failure	Transformational system failure
Type of solution	Scientific innovation	Technological/regulat change	Transformation of system	Transformation of system (behavior)
Problem vs. goal oriented	Problem-oriented	Goal-oriented	Goal-oriented	Problem-oriented
Demand for governance	Low	Medium	High	Very high

Wittmann et al 2020

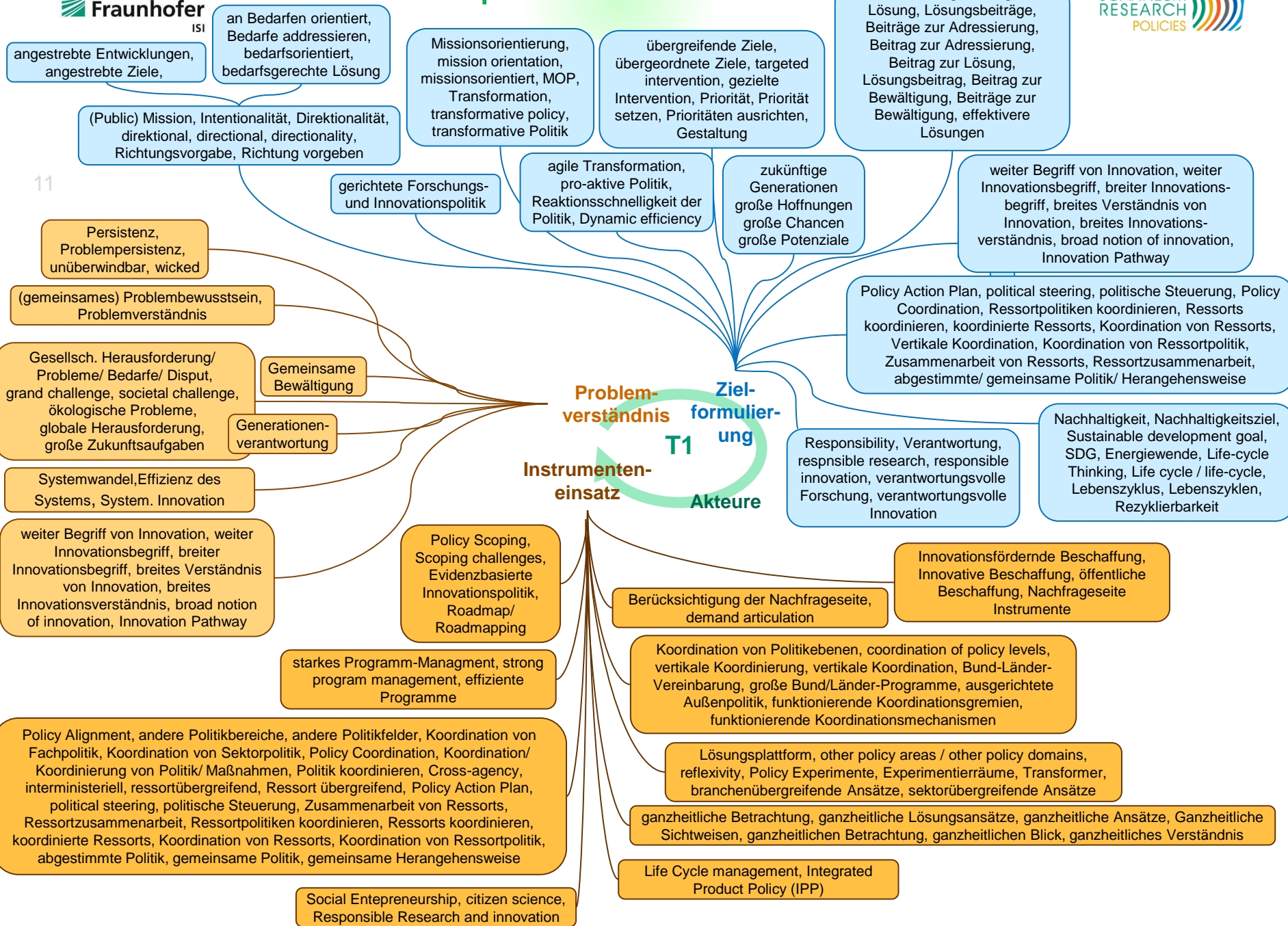
+ 2 existing policy styles in STI policies: systemic cluster-oriented and systemic diffusion oriented

Identificaion of **policy-style specific vocabulary** from academic literature and policy documents in an iterative process along the five dimensions



Thesaurus on policy styles in STI policies (~400 terms – English and German)

Example: Transformer 1



Text mining: Corpus

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Institution	Dokumententyp	vor/ab Okt 02 - 18.10.2005	18.10.2005 - 22.10.2013	22.10.2013 - April 2020	Σ
Bundestag	Plenarprotokolle	188	487	400	1.075
	Unterrichtungen ¹²	687	1.738	1.577	4.002
	Antworten ¹	858	7.041	10.502	18.401
PROMO	Programm- und Strategiedokumente	0	60	130	190
	Förderinstrumente (BMBF & BMWi)	0	860 230	940 250	2.280
SIPER ³	Evaluationen	1	29	87	117
BMWi	Gutachten wiss. Beirat	22	28	32	82
BMBF	Beratende Gremien ⁴	33	77	82	192
		1.789	10.550	14.000	26.339



¹ Kategorie „Wissenschaft, Forschung, Technologie“;

² enthält u.a. Programm- und Strategiedokumente, EFI Gutachten

³ SIPER Evaluationsdatenbank der Forschungsinfrastruktur RISIS sowie eigene Erhebungen (Kulicke 2020)

⁴ EFI, WBGU, Hightech-Forum, Ethikrat, Bioökonomierat

Phasen des Politikprozesses:

- Debatte / Problemwahrnehmung
- Strategische Orientierung
- Politische Instrumente / Umsetzung
- Strategische Intelligenz / Evaluation

Stand 2.6.2020, vorläufig.

Text mining: First Results

(Extract, 2020-05-05)

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Selected terms associated with Transformer policy styles

Phase des Politikzyklus	Schlüsselbegriff	2013-2020		2005-2013	
		in <i>n</i> Dok	in %	in <i>n</i> Dok	in %
Problemwahrnehmung	Systemische Innovation	110	0,62%	47	0,31%
Problemwahrnehmung	governance handlungsfeld	55	0,31%	19	0,13%
Orientierung	Public Mission	204	1,15%	126	0,84%
Orientierung	politische Steuerung	775	4,35%	449	2,99%
Orientierung	gesellschaftliche Steuerung	349	1,96%	242	1,61%
Orientierung	politische Steuerung	775	4,35%	449	2,99%
Orientierung	Transformation	536	3,01%	205	1,37%
Orientierung	transformative policy	13	0,07%	2	0,01%
Orientierung	transformative Politik	52	0,29%	5	0,03%
Orientierung	SDGs	208	1,17%	8	0,05%
Orientierung	Nachhaltigkeitsziele	196	1,10%	27	0,18%
Beteiligte Akteure	partizipativ	48	0,27%	18	0,12%
Beteiligte Akteure	user innovation	366	2,06%	253	1,69%
Beteiligte Akteure	policy platform	77	0,43%	31	0,21%
Instrumente	program management	106	0,60%	59	0,39%
Instrumente	policy coordination	45	0,25%	25	0,17%
Instrumente	citizen science	47	0,26%	3	0,02%
Instrumente	Einbeziehung stakeholder	144	0,81%	56	0,37%
Evaluation	Social impact	122	0,69%	51	0,34%

Tentative findings and conclusions

- 15 ■ **Conceptual Contribution:** Deduction of policy styles from MIOP
discussion: connects to a more holistic view of the whole policy process and tries to advance understanding of policy-style specific governance arrangements and instrument (mixes) (*though we are modest about this, as there is a lot of path dependency and fuzziness here!*).
- **Operationalisation for text mining:** Policy-style specific thesaurus, discussed and validated with experts, shall become open source
- **Preliminary empirical findings:**
 - There is evidence that (i) a new discourse is emerging in STI policies (different perception of challenges, new policy targets), (ii) that STI policies are beginning to re-direct, but (iii) it is still confined to a rather small number of programmes and initiatives.
 - While there is a conceptually advanced discussion, we expect the ideal-type policy styles to mix in reality. Our next step of analysis shall help to better understand how policy styles mix and how new elements combine with existing ones.

Case studies

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To be drawn from:

- Accompanying research on the German High Tech Strategy
- DG RTD / JIIP 'Inventory of Mission-Oriented Policies
- OECD Project on Mission-Oriented Policies



Thank you for your attention!