



Session A – Bioeconomy regions

Experiences from the Bioeconomy Science Center

Ulrich Schurr, Heike Slusarczyk

UFZ, Leipzig, 16.03.2017



Challenges – Sustainable Bioeconomy



Climate change



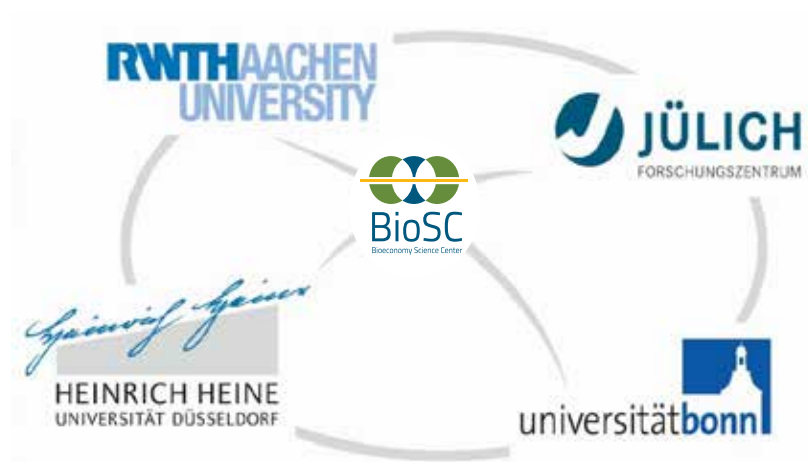
Food/Feed



Energy



Resources





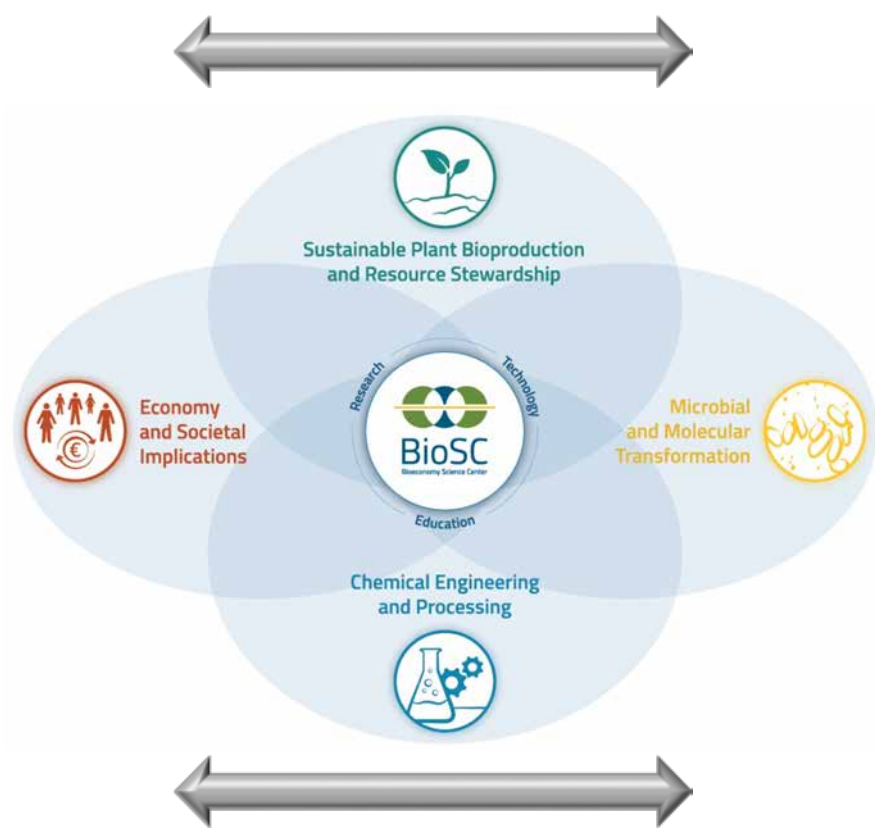
Bioeconomy Science Center - BioSC



Climate change



Food/Feed



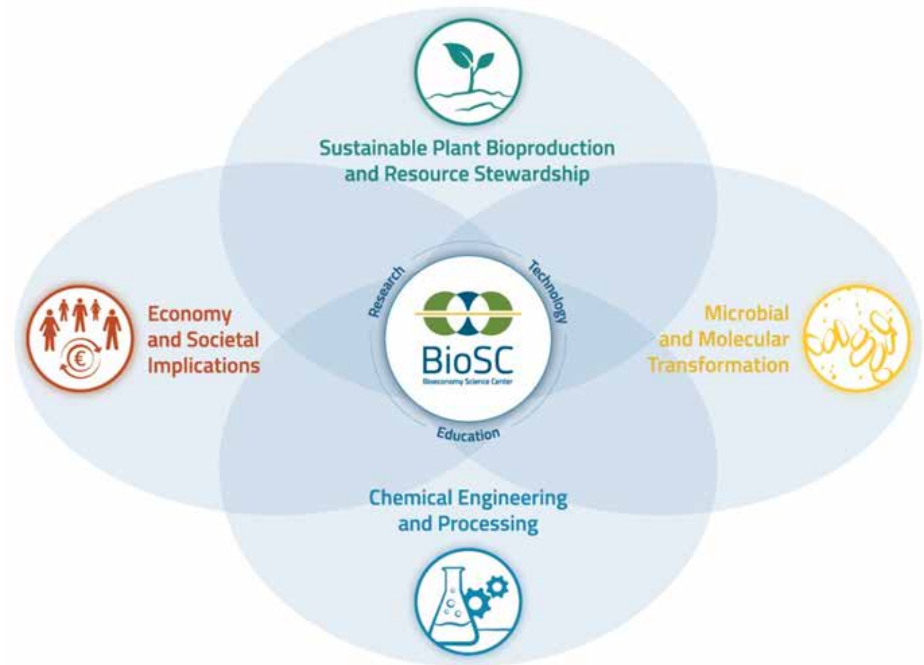
Energy



Resources



- Mission
Sustainable & integrated Bioeconomy
- Integration of key disciplines for the provision of biomass, biobased products and processes, (socio-)economic aspects
- Research & Education



- founded 2010
- 65 Core Groups, > 1600 Staff



NRW Strategy Project BioSC

Focus on integrated bioeconomy

- **Integrated approaches are needed**
 - Products – innovative concepts solving concrete problems
 - Sustainability – circular processes and efficiency
 - Value networks/ webs – optimisation in the systems approach
- **Challenges**
 - Truly multi-disciplinary cooperation is essential
 - Overcoming boundaries of disciplines – founded on excellent science and infrastructure
 - Bottom-up and strategic approaches

NRW Strategy Project BioSC

- 10 years funding period; 5.8 Mio. €/a
- Focus on community building and inter- and transdisciplinary projects
- Joint strategy and integration



Ministerium für Innovation,
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des Landes Nordrhein-Westfalen



Phase 1: Initiation

2013 - 2016

Phase 2: Implementation of focus

2017 - 2020

Phase 3: Sustainable development

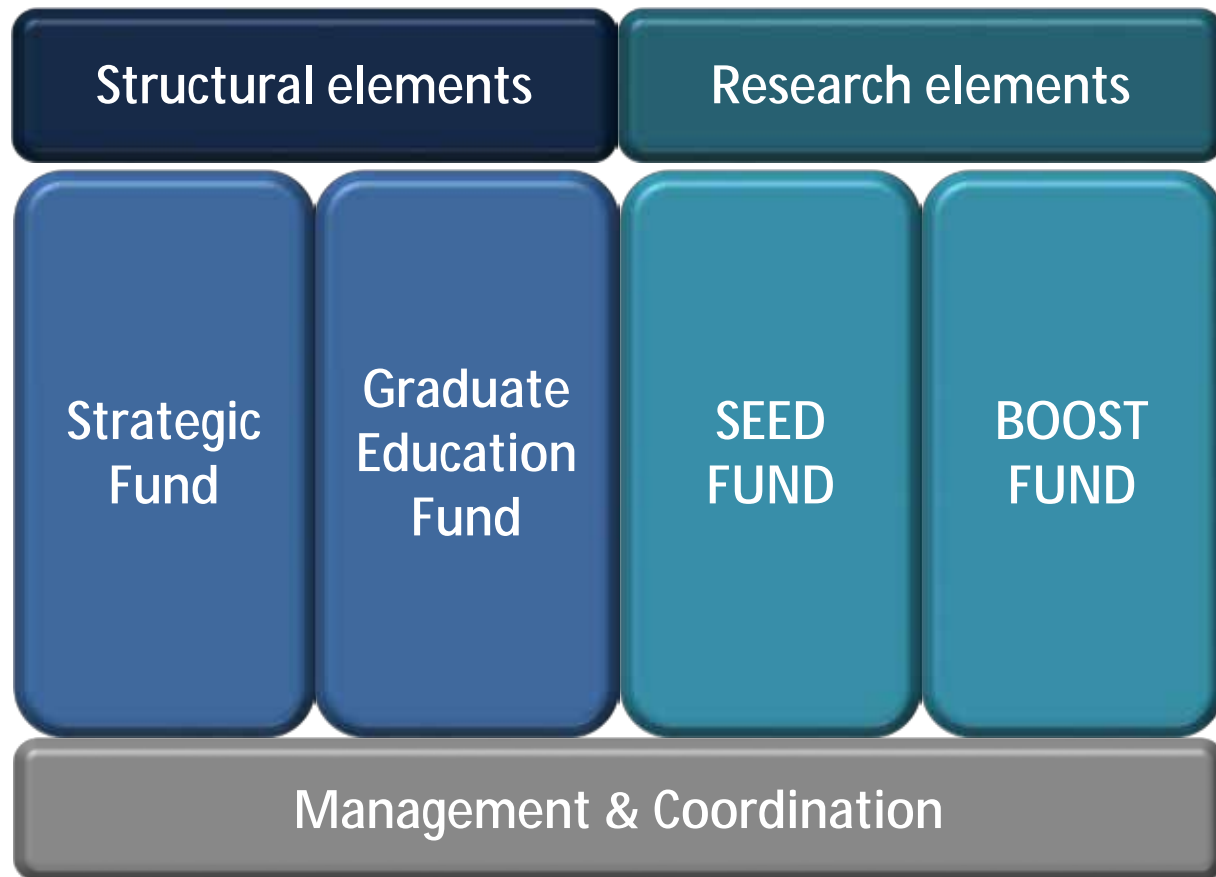
2020 - 2022

Identification of topics

Focussing

Implementation

Structure Phase 1



Aims

- Concepts for integrated bioeconomy
- Cross-linked & trans-disciplinary understanding of disciplines
- Knowledge transfer and -interaction
- Networking internal & external
- Communication internal & external

White Papers

Guest scientists

Integration Fora

Technology-/
Cluster Days



NRW Strategy Project BioSC

Funded research projects in phase 1

21 SEED FUNDS (up to 150 T€; 12 M)

2.9 Mill.€ High risk, high gain projects

20 BOOST FUNDS (up to 800 T€; 24 M)

13.0 Mill.€

CoSenS BioSAF MoniCon

FlowCom VariSurf NovoSurf

MisQual MetEvo Roxense

Econ-BioSC UstiLyse BioCaPS

LIPANO EtMeD AquaPro

TPOT GreenGel BioDeg

DiPro UstiOpt HiQFlux

EnZIP OrCaCel P-ENG

BIO-ExpressPro BioBreak CatIBs

C4-PSH AlgalFertilizer RIPE

GLUFACT InductomE SPREAD

PNP-EXPRESS PlaMint PectiLyse

MoRE-Plants PrimACs PhytaPhos

BiFuProts BeProMod



More details: www.biosc.de

Combining Unique Infrastructures

Agricultural field sites



Biorefinery (NGP²)

- Analytical systems for
- Plant phenotyping
 - Microbiological processes
 - Biocatalysis
 - Chemical analysis

CoSenS
 universität bonn
 FlowCom
 MisQual
 Econ-BioSC
 LIPANO
 JÜLICH
 FORSCHUNGSZENTRUM
 DiPro

iCon
 Surf
 nse
 aPS
 aPro

EnZIP
 BIO-
 Exp
 64
 GL
 PN
 EXPRESS

OrCaCel
 BioB
 RWTH AACHEN
 UNIVERSITY
 BiFuProts

P-ENG

MoRE-Plants
 BeProMod

Topic	Coordinator
Bioeconomy Educational Programmes	HHUD
Efficient and integrated use and recycling of phosphorus in the value-added chain	Uni Bonn
Cascade utilization of Miscanthus to increase resource efficiency	Uni Bonn
Vertical Farming – Important topic for bioeconomy research?	Uni Bonn
Washing at room temperature	RWTH AC
Data collection on bioeconomy	FZJ
Regionalisation of bioeconomy	FZJ
Assessing Science to Business (S2B) Technology Transfer in the emerging Bioeconomy	Uni Bonn
Future applications of synthetic microbial communities in bioeconomy	HHUD



Regional and national cooperation

Integrated bioeconomy



Technologies

Exzellenz cluster

Regional clusters



Cropsense.net

DPPN

CEPLAS

Taylor-made fuels from biomass

Geoverbund

CLIB 2021



Disciplinary excellence





Europa



Lateinamerika



Brasilien, Argentinien, Costa Rica, Chile, Mexiko, etc.



India



Asien



China

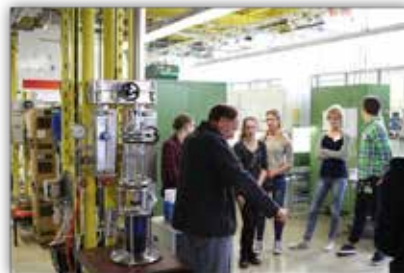
Thailand





BioSC Education Programme – Activities

International
Summer Schools



Lecture series



Excursions,
Workshops,
Lab Exchanges



PhD Competence Award
Supervision Award



Lessons learnt & conclusion

- Integration is important, needs time
- Long term strategy and perspective needed
- Infrastructure is important
- Running costs and business plans for infrastructures are required
- Joint appointment policy is needed
- Possibilities and resources for development of new concepts
- Working in networks, close collaboration basic science and application
- International cooperation with focus on target countries
- Junior scientists are part of implementation

BioSC is a “living” project”

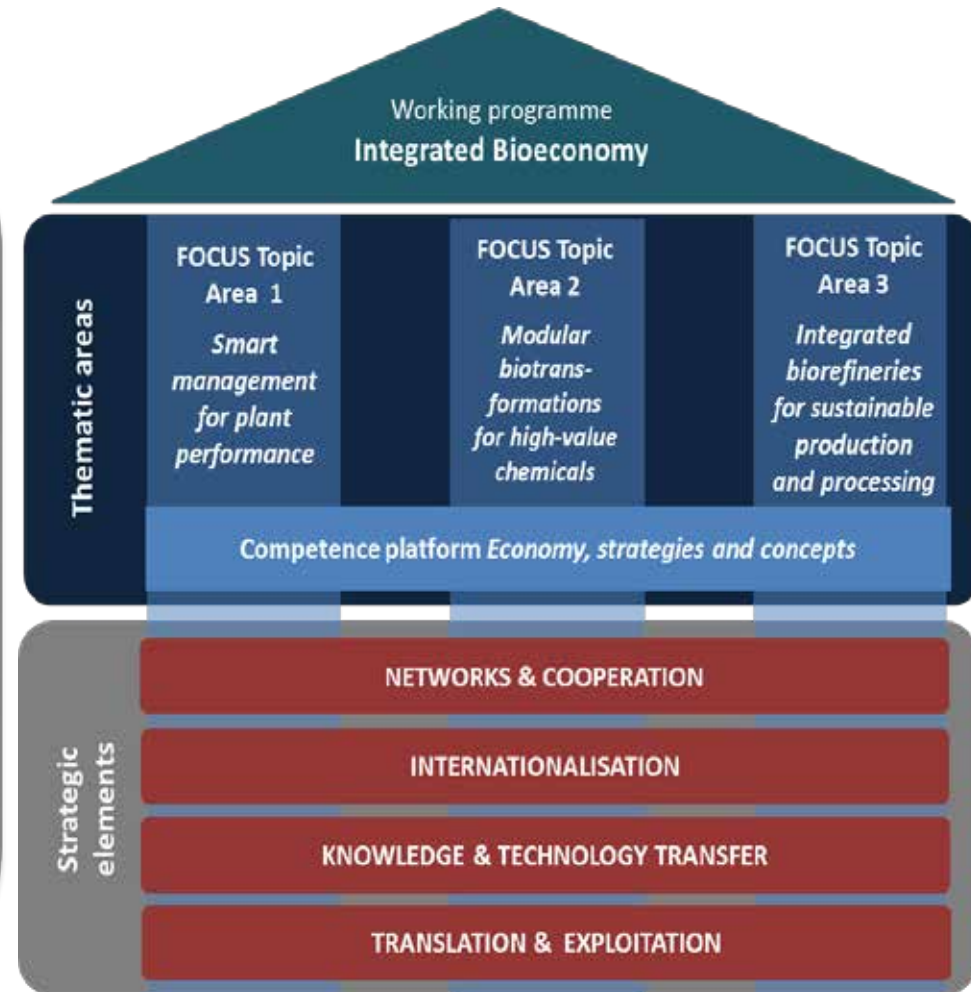
-> Integrated concept proceeds in phase 2

FocusLabs in BioSC

- § Start Q2- 2017
- § Integrated labs across disciplines
- § Governance

- § 1- 2 *FocusLabs* / Topic area
- § 800 k€/ year (3 years projects)

**Inter-disciplinary education
in bioeconomy**



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**Thank you
for your attention**

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