

EGC/UFSC

Graduate Program on Knowledge
Engineering and Media

Florianópolis. 17/11/2015



Agenda

- About us
- Some of the projects
- How we can cooperate



EGC

UFSC - Federal University of Santa Catarina



Graduate Program: Knowledge Engineering Knowledge Management Knowledge Media

- Since 2004
- CAPES grade 5 (top national programs)
- 35 PhDs from several areas
(Psychology, Management, Engineers, Computer, Semiotics, Education)
- 60 students per year (30 master and 30 PhD)
 - **More than 200 PhDs and 200 Masters in EGC**



QUEM SOMOS

Histórico da EGC/UFSC



Visão da engenharia de produção associada à engenharia industrial

Visão da Eng. de produção com cognição e da Inteligência Aplicada, educação e sistema de produção, qualidade, gestão ambiental, empreendedorismo, inovação.

Visão do conhecimento como fator central de agregação de valores organizacionais e posicionamento da GC, EC e MC como interdisciplinas

Sociedade industrial

Sociedade da informação

Sociedade do conhecimento

1969

1985

1989

1991

1995

2004

2008

2010-2014

Criação do PPG em Eng. Prod. UFSC

Planejamento Estratégico
EaD e Conceito CAPES

Áreas de IA, Gestão
Qualidade, Ergonomia

Doutorado em Eng. Produção

Doutorado em Eng. Produção

Criação do EGC

APPs-UE

Conceito 5 (CAPES)

Industrial Society

Production engineering aligned to industrial engineering

Information Society

Production engineering starts to deal with subjects such as Quality, Applied Intelligence, Entrepreneurship, Innovation and Environment

Knowledge Society

Knowledge becomes the main value factor. The need for a new Engineering, Management and Media professionals



EGC research fields

KM

Corporate Governance
Public governance
Organizational Learning
Organizational Memory
KM & Leadership
KM & Innovation
KM & Entrepreneurship
S&T Parks
Urban Observatories
Sustainability

KE

KE Methodologies and methods
Knowledge systems
Ontology Engineering
Semantic Web
Semantic Government
Linked data
KDD, Data mining & BI
Grid computing
Remote experimentation
Smart cities

KM

Distance education
Visual knowledge
Design thinking
Cognitive science
Usability and design
Social innovation
Social media
Digital inclusion
Corporate communication

EGC National Partnerships

Firms

Siemens
Natura
Embraer
Itau
CELESC
Coelba
Knowtec
Nexxera
ACATE
MERCK

Third Sector

SENAI
SEBRAE
SESI
FIESC/IEL
ACATE
ABDI
CGEE

Government

FAPESC
SDS
InovaSC
MCTI
MS
MMA
CONFAP
CAPES
CNPq

Universities

UFRA (Amazon)
USP
UDESC
Unisul
SOCIESC

Institutes and Parks

IEA
CERTI
Sapiens Parque
Instituto Stela



EGC International Partnerships



1) Rede RExNet - Yippeee (Comunidade Européia)

Alemanha: Universidade Técnica de Berlim & Universidade de Bremen
Portugal: Universidade do Porto & Instituto Politécnico do Porto
Escócia: Universidade de Dundee
Brasil: Universidade Federal de Santa Catarina & Universidade Federal do Rio Grande do Sul
Chile: Pontifícia Universidade do Chile & Universidade Católica de Temuco
México: Universidade de Monterrey

2) École Polytechnique de Montréal (EPM)

3) Universidade do Minho

4) University of Western Ontario

5) Erasmus University (Leiden, Holanda)

6) Pontifícia Universidade Católica do Peru

7) École Nationale d'Ingénieurs Saint-Etienne

8) The Pennsylvania State University

9) Universidad de Zaragoza

10) Universidade Politécnica de Madri

11) Universidade de Barcelona

12) Wiesbaden Business School (Wiesbaden / Alemanha)

13) Universidad Autónoma de Madrid (Madri / Espanha)

14) Universidad Técnica Particular de Loja (Loja / Equador)

15) Universidade de Ciências Aplicadas de Colônia (Colônia / Alemanha)

16) UNESCO (Paris, França)

- Student exchange
- Professor exchange
- Joint Events
- Joint Research

United States

Harvard and MIT (Smart Cities and innovation)
Drexel University
University of North Carolina

SKOVDA University

Susan Durst

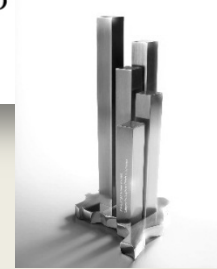
Lineus Palmer Program



Instituto Stela



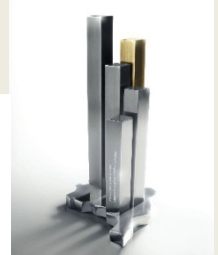
Prêmio FINEP
de Inovação



2007



2008



2012

- Non profit organization that works with research and development in the areas of Information Technology and Knowledge Engineering
- 65 researchers and collaborators (20% PhDs and 20% masters)
Engineering, Computer Science, Information Systems, EGC, and others



What is the research profile of ME in Brazil?

Which ME scientific domains are weak and how to strengthen them?

ABCM Case (2007)

The Brazilian Academy of Mechanics Sciences and Engineering (ABCM) wanted to show how Brazil is doing in this area at the 2007 International Engineering Conference.

Exploring CVs to discover national knowledge profile:

1. Database selection

Collecting all CVs related to selected priority area

2. Taxonomy of interests

Defining a taxonomy for each priority subdomain

3. Knowledge clusters

Finding clusters of related terms

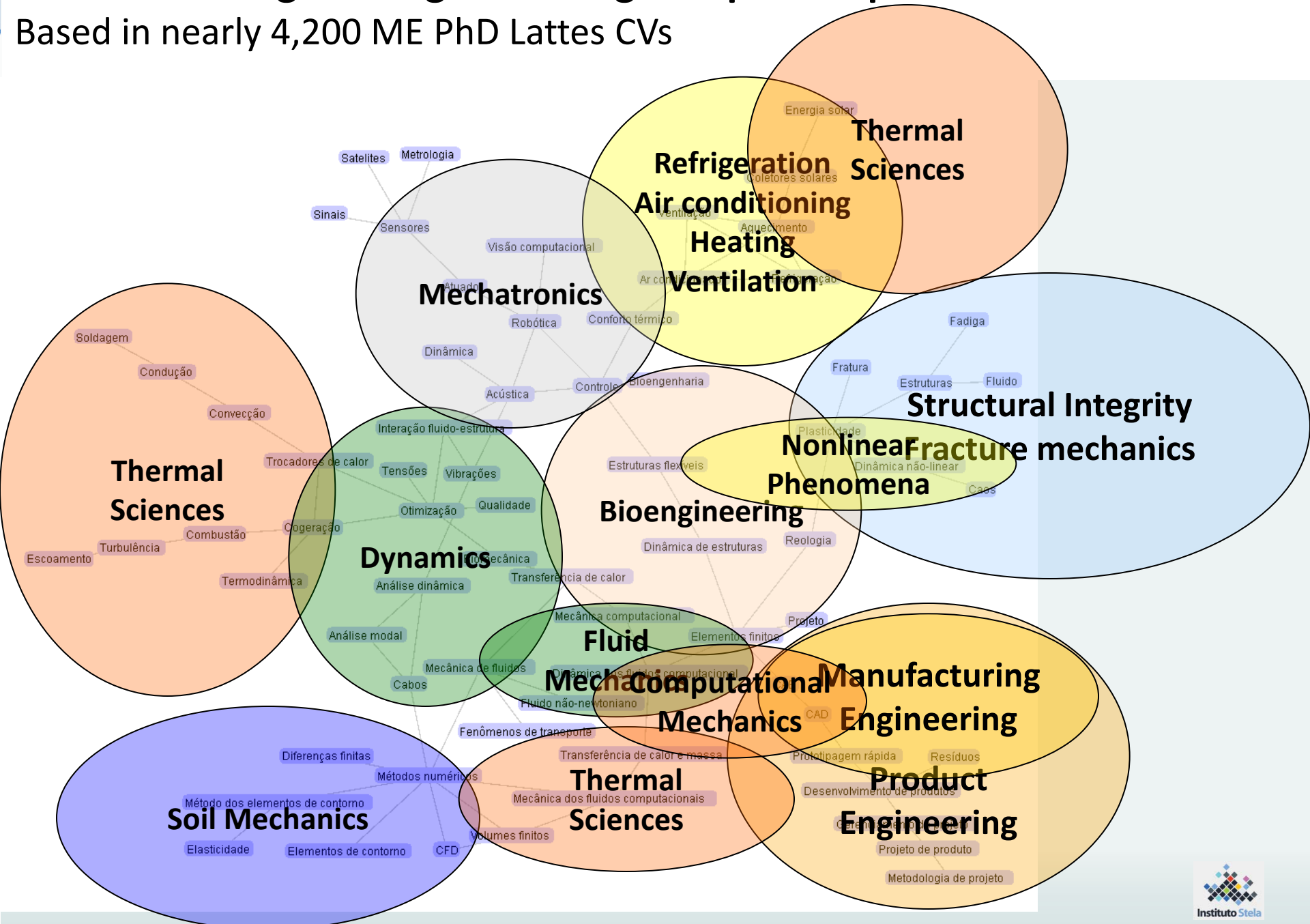
4. Supporting decision making

Setting decision making goals

In this case: identify weak subdomains (low density clusters)

Mechanical Engineering Knowledge Map descriptors

Based in nearly 4,200 ME PhD Lattes CVs



Exploring CVs to analyze research networking

1. CV field selection

Networking: Coauthorship, advisory, project team, committees

2. Team relationship maps

Calculating relationships among all network teams

3. Snapshots

Repeating step (2) for every year

4. Network analysis

Comparing network profiles among grant candidates

Data obtained from Lattes Platform CVs
Analysis done by services provided by Innovation Portal

		Knowledge network		Education network		Project network		Academic relationship	
Proposals	Team	Coauthorship		Advisoring		Project Team		Committee	
		Total	Team	Total	Team	Total	Team	Total	Team
Project 1	25	122	6	4	5	21	10	12	2
...									
Project 261									

Project 1 has 25 researchers

Out of 25 researchers:
6 are coauthors in 122 articles

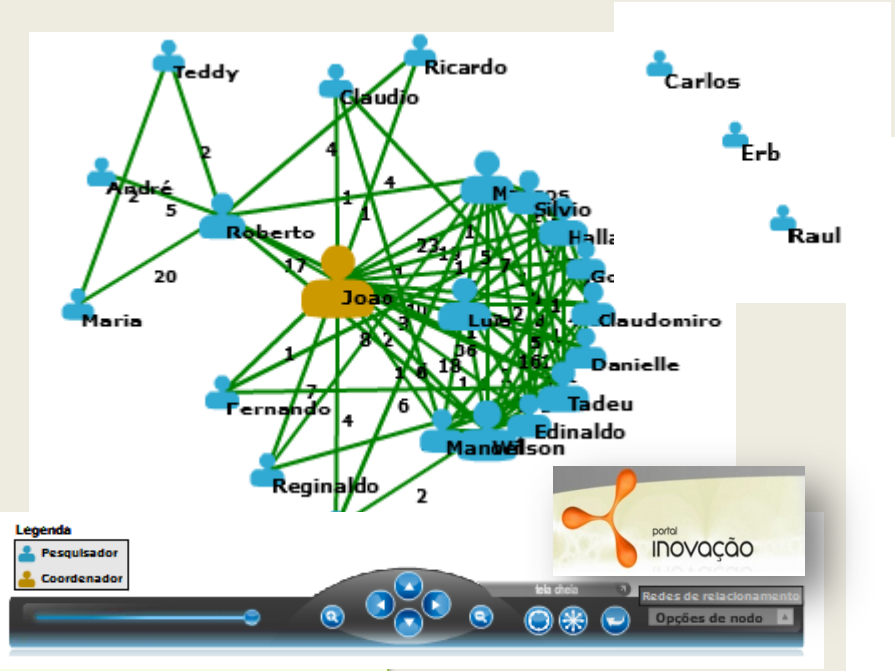
Out of 25 researchers:
5 have 4 advisoring relationships

Out of 25 researchers:
10 work together in 21 other projects

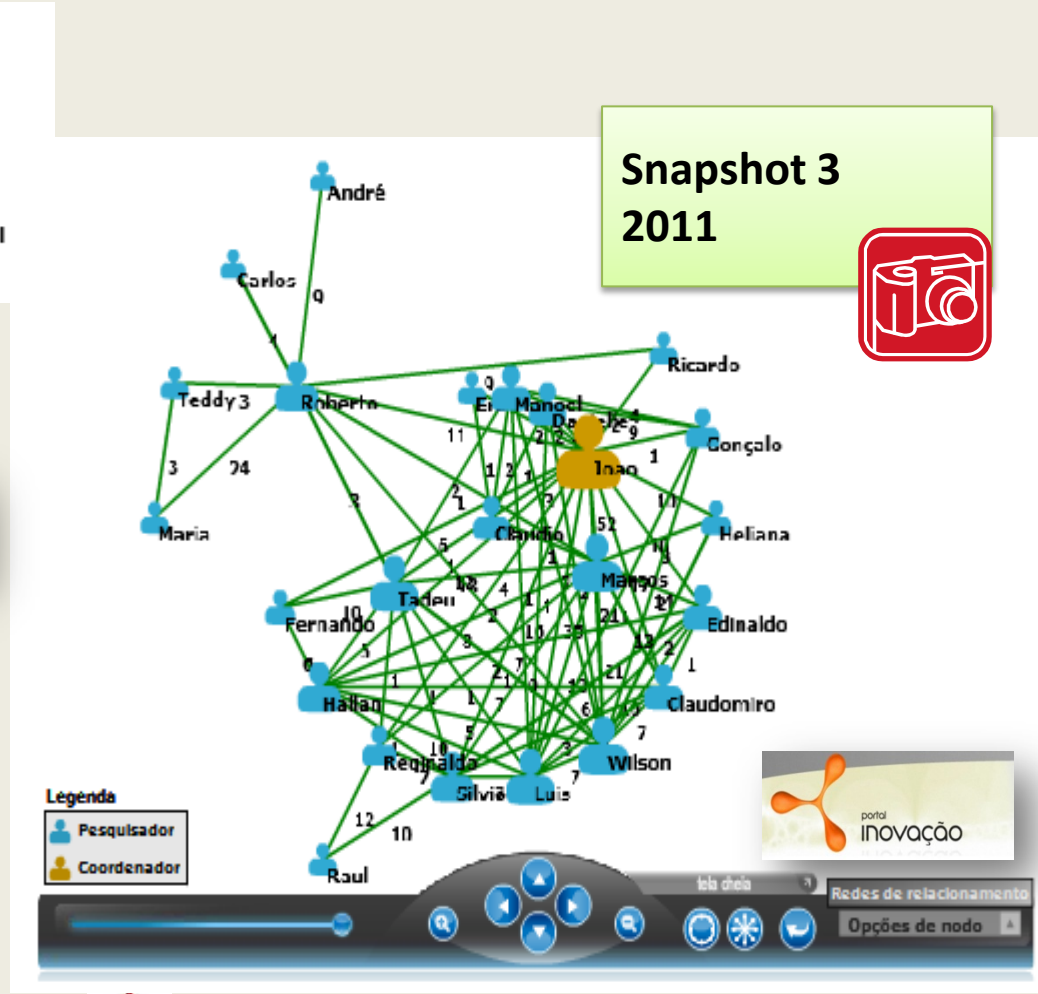
Out of 25 researchers:
2 were present in 12 committees

National Institutes of Science and Technology

Data obtained from Lattes Platform CVs
Analysis done by services provided by Innovation Portal



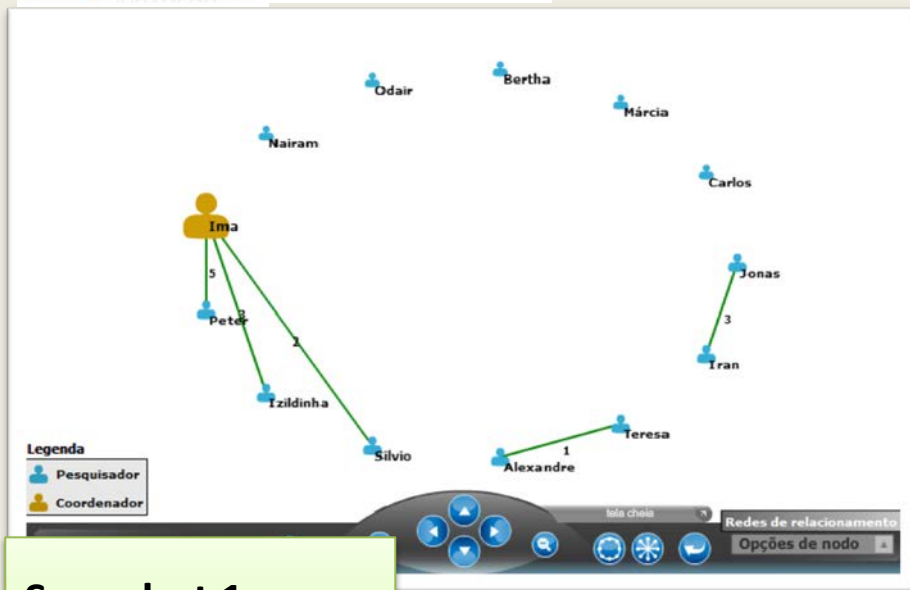
**Snapshot 1
2008**

National Institutes of Science and Technology

Data obtained from Lattes Platform CVs

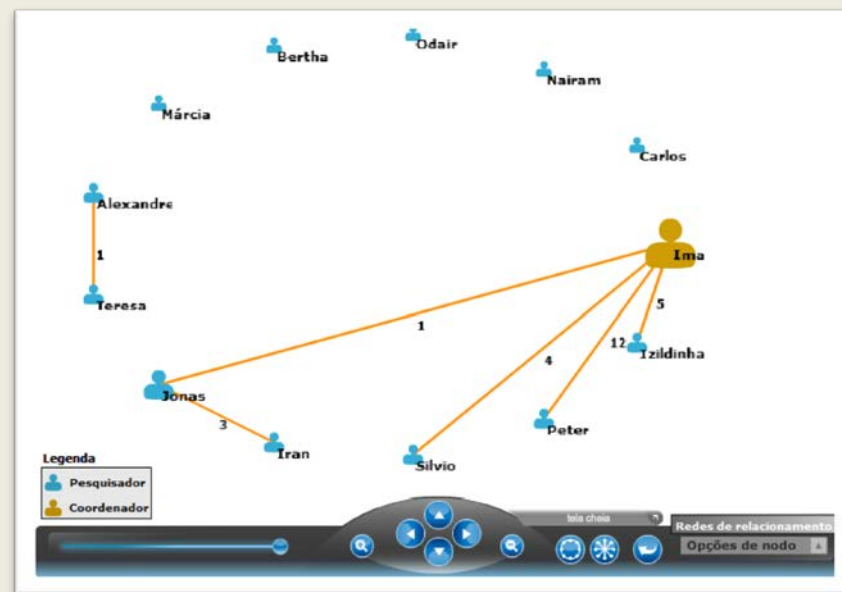
Analysis done by services provided by Innovation Portal



Snapshot 1
2008



Snapshot 3
2011



Recent Project



V CECTI 2015 (1078 Participants)

Florianópolis – 17/10



160 Participantes

Criciúma – 27/10



211 Participantes

Itajaí – 03/11



392 Participantes

Chapecó – 22/10



128 Participantes

Jaraguá – 29/10



92 Participantes

Lages – 06/11

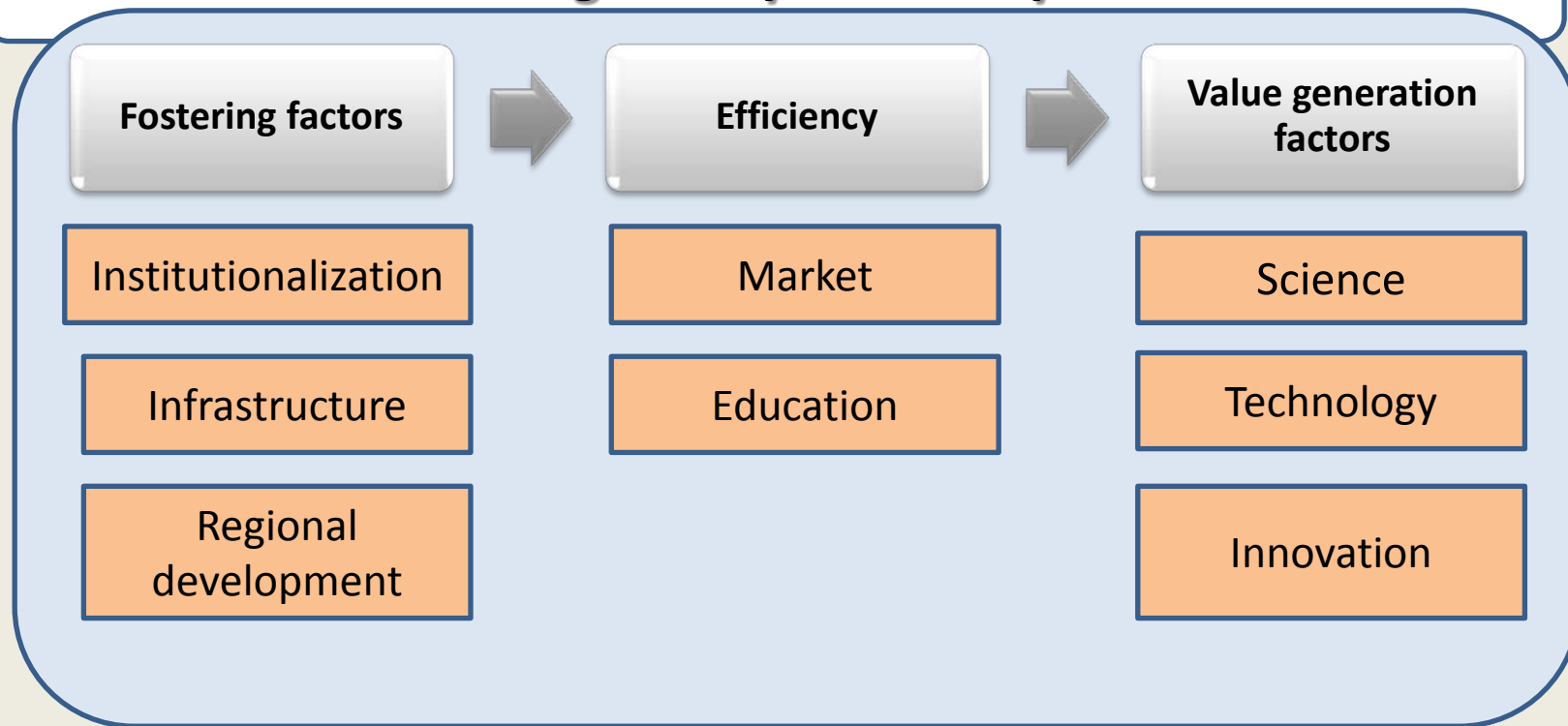


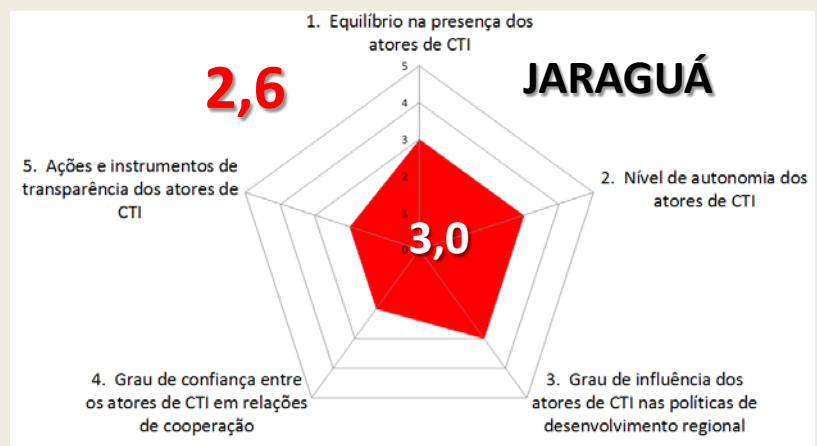
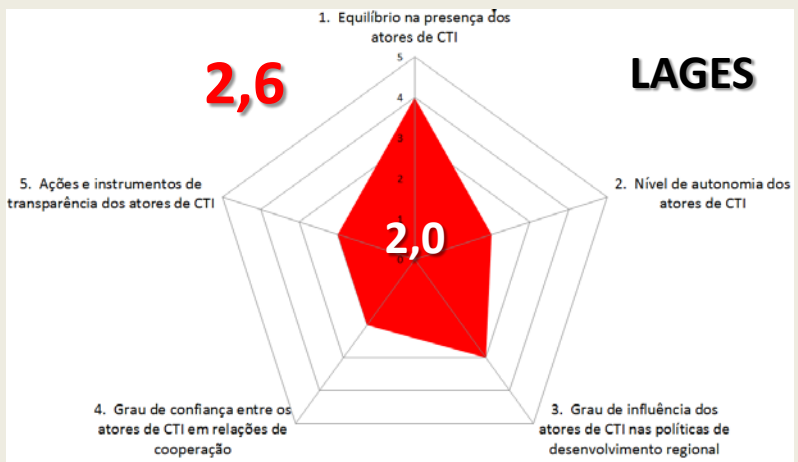
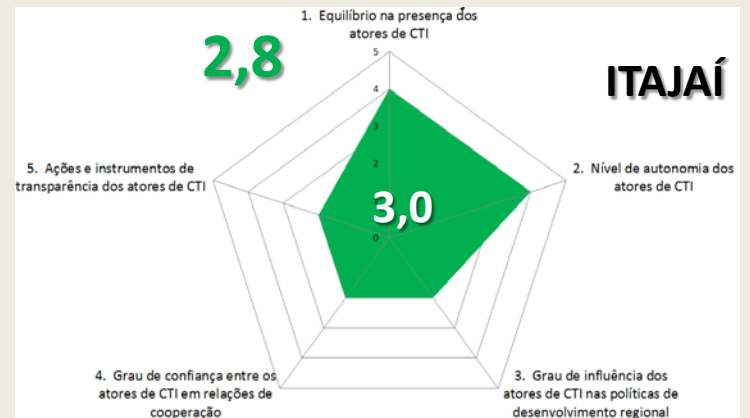
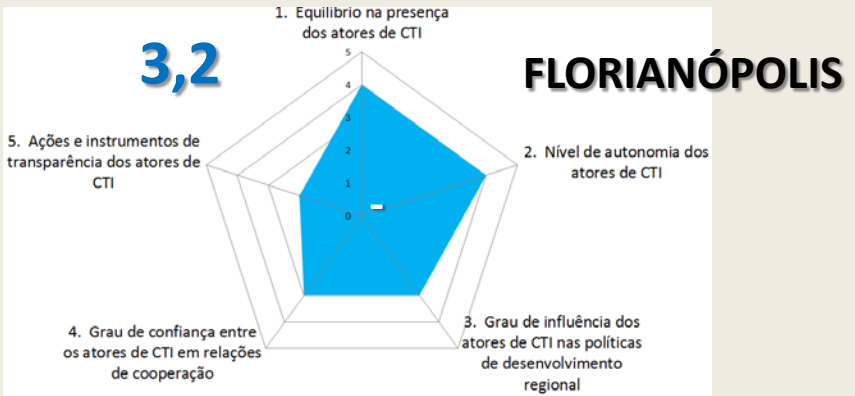
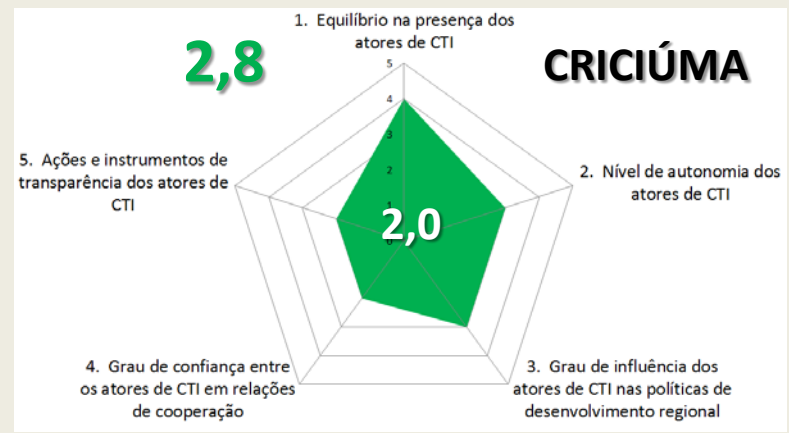
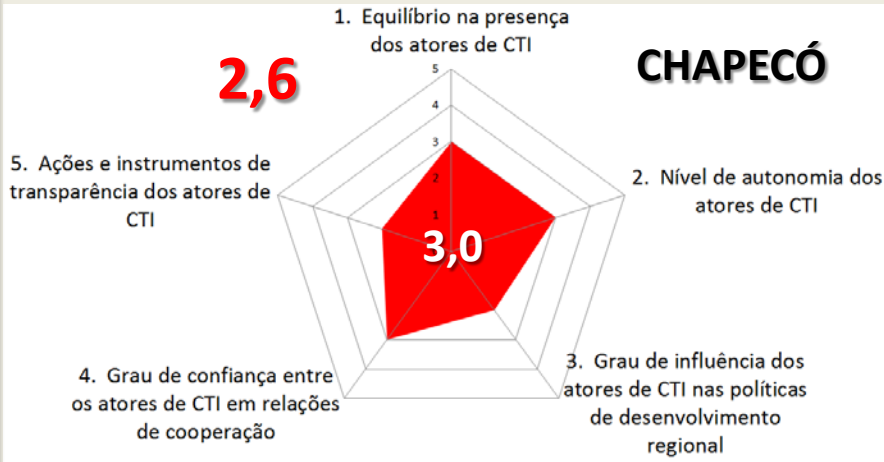
95 Participantes

FRAMEWORK EGC/UFSC

8 dimensions

STI regional system analysis





What we can do together



International partnership

- Joint scientific events
 - CiKi
 - KM Brazil (with SBGC)
- Exchange programs
- Joint R&D projects
- Joint research program in KM&M





Roberto C. S. Pacheco

Professor - Federal University of Santa Catarina (UFSC) and

Lead Researcher - Stela Institute

Florianopolis, Santa Catarina, Brazil - pacheco@egc.ufsc.br

