



MCTI Ministério da Ciência,
Tecnologia e Inovação

LINDEN

Team: CAROLINE BRESSAN, ANDREA GRANADA.

18/06/2014

1. LINDEN Team
2. Nanotechnology - State of the art
3. The SisNANO governmental program
4. Mission and Values Statements
5. Associated Laboratories
6. Chronogram 2014
 1. Structure
 2. Marketing
 3. Projects
7. *Open Innovation concept*



Farm. Andréa Granada Ferreira
Pharmaceutic Sciences – Uni Londrina / 2004
Master in Pharmaceutic Sciences – UFSC / 2007
Doctoring in Pharmaceutic Sciences– UFSC/ Grenoble, França - 2014



Eng. Caroline Zanini Bressan
Materials Engineer – UFSC / 2012
Masters in Numerical simulation - UDESC

ABOUT NANOTECHNOLOGY

➤ International Interest



➤ Economic importance

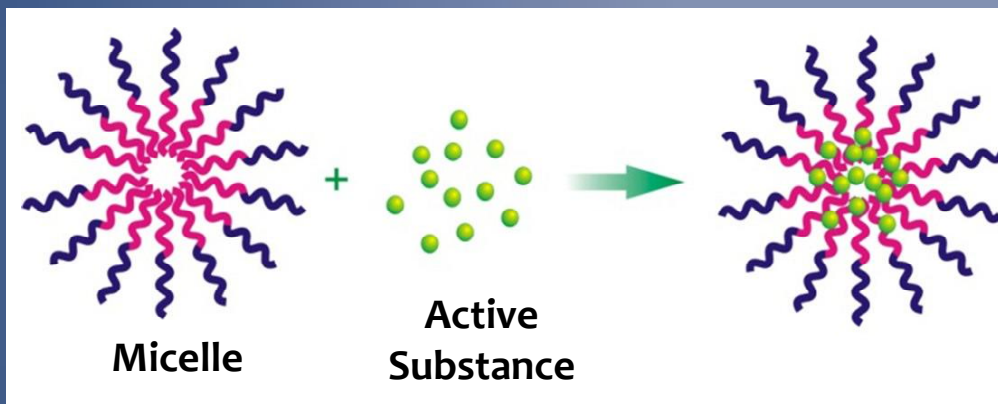


➤ Innovation



NANOTECHNOLOGY IN CHEMICAL AND PHARMACEUTICAL FIELD

➤ *Control of drug release*



➤ *Active packaging*



➤ *Green Chemistry*





NATIONAL SYSTEM OF NANOTECHNOLOGY LABORATORIES

Instituted by MCTI nº 245, 05/04/2012

Instituted by Official Norm nº 2 - 15/06/2012



SisNANO – Characteristics and e Vocation

SisNANO – Open access between
Research Laboratories and
Companies

Strategic

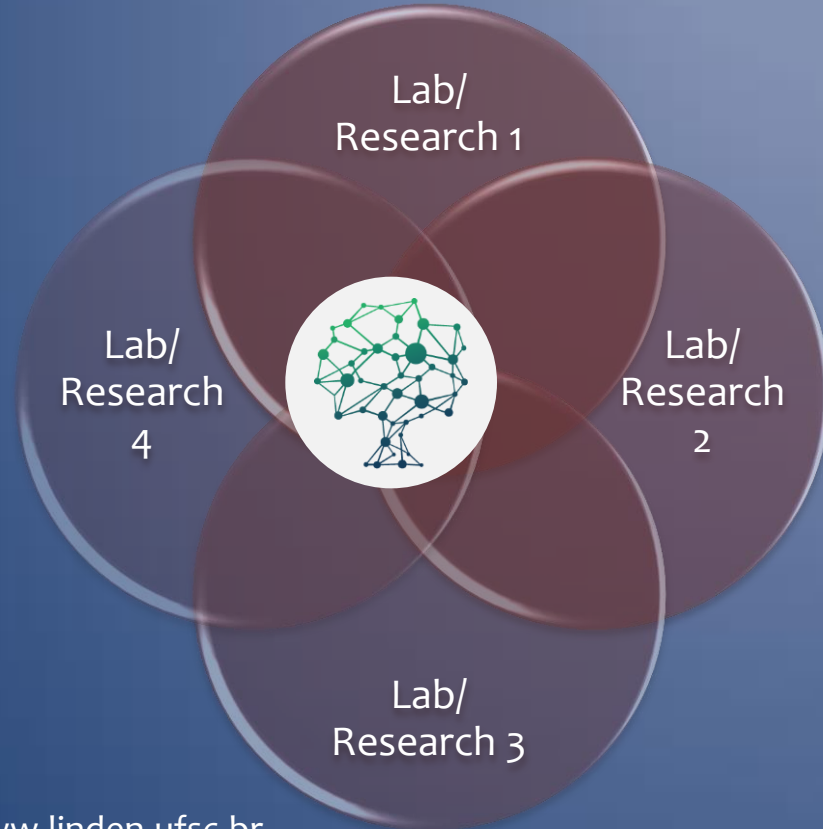
Associated

Contemplated Areas:

Petro & Gas
Aerospace
Agribusiness
Defense
Energy
Environmental
Health

OBJECTIVES:

- Industrial development of new nanotechnological products and processes
- Expand and consolidate infrastructure for Innovation
- Support new international cooperation related to nanotechnology



Requirements:

- Highly specialized Laboratories **with research topics related to Nanotechnology.**
- Infrastructure **and** equipment.
- Academic experience, **innovation, technology and historic collaboration with the productive sector.**
- **Provision of at least 15% of its activities for the SisNANO program.**

➤ **MISSION:**

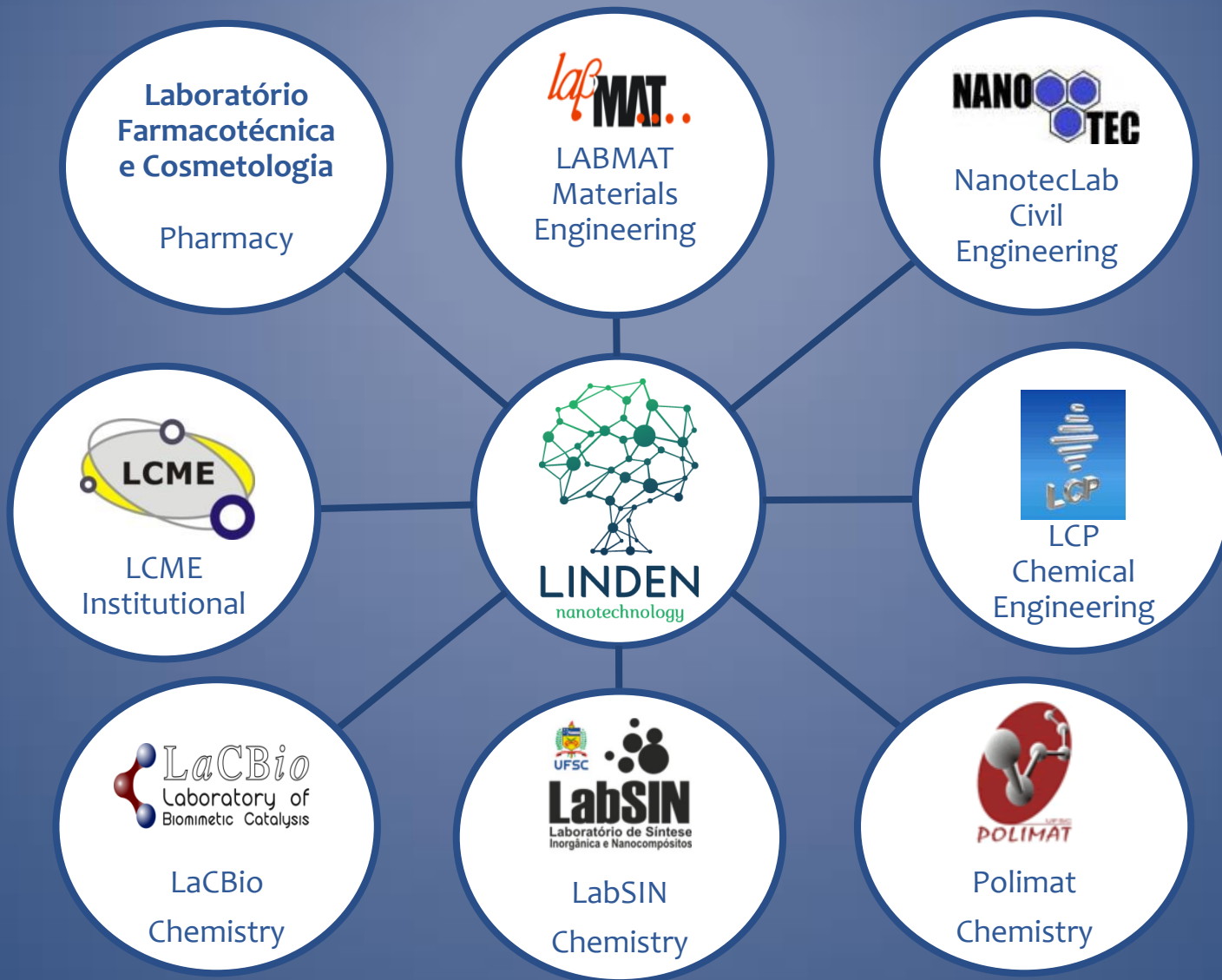
“Bringing nanotechnological solutions to productive sector aiming at improving human welfare”

➤ **VALUES:**

1. Transparency;
2. Agility in client treatment;
3. Unstoppable search for innovation.



ASSOCIATED LABORATORIES



ADMINISTRATIVE ORGANIZATION CHART

Professors		Associated Laboratories	Management Committee
	Prof. Dachamir Hotza	LabSin	President
	Prof. André Pasa	LCME	Vice-President
	Prof. Aloísio Klein	LABMAT	Member
	Prof. Ricardo Machado	LCP	Member
	Prof. Philippe Gleize	NanotecLab	Member
	Prof. Elenara Senna	Lab. Farmacotécnica e Cosmetologia	Member
	Prof. César Franco	LCP NanotecLAB	Member
	Prof. Wellington Repette	NanotecLab	
	Prof. Josiel Domingos	LacBio	
	Prof. Valdir Soldi	Polimat	

LABMAT



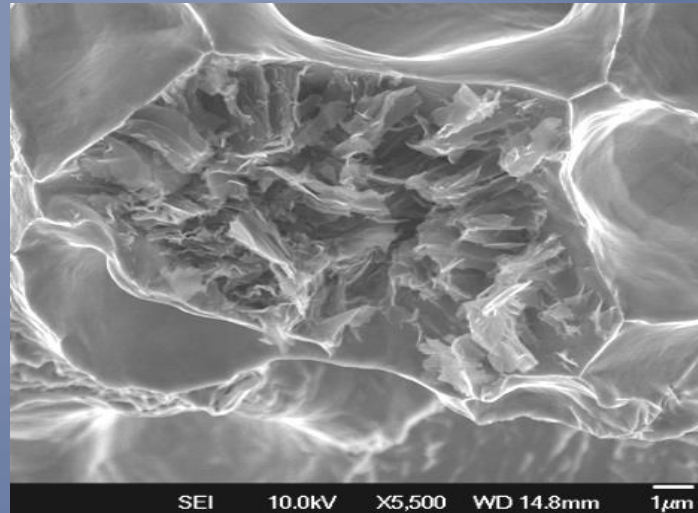
Materials Engineering



Prof. Aloisio Klein
Coordinator

➤ Development of nanoparticles for special applications

- Additives for lubricants



Self-lubricating sintered steel containing nano-structured graphite generated in situ during sintering by dissociation of precursor additive.

➤ Other research topics:

- Plasma Processing
- Powder metallurgy
- Tribology
- Polymeric composites

LACBIO

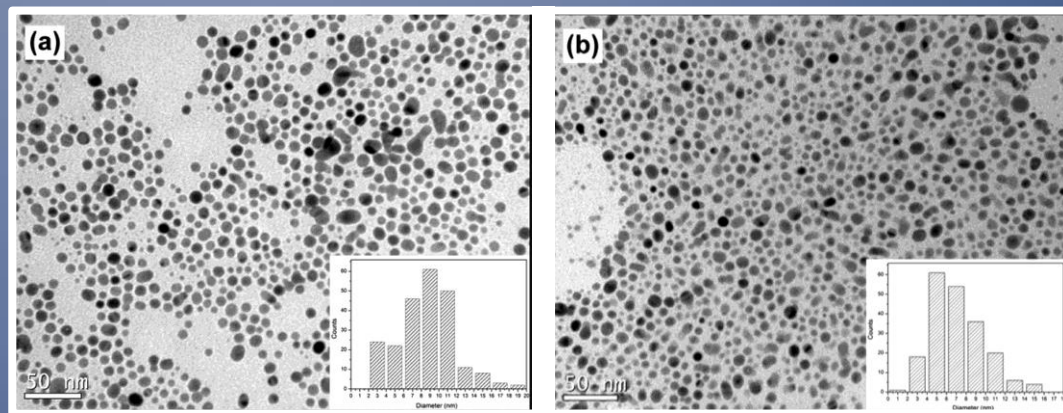


Chemistry



Prof. Josiel Domingos
Coordinator

- Synthesis of metallic nanoparticles
- Catalysis by metal nanoparticles
- Study of recovery and re-use of metal nanoparticles



Micrographs: Transmission electron microscopy
(a) AgNPs-A and (b) AgNPs-B

NANOTEC LAB



Civil Engineering



Prof. Phillippe Gleize

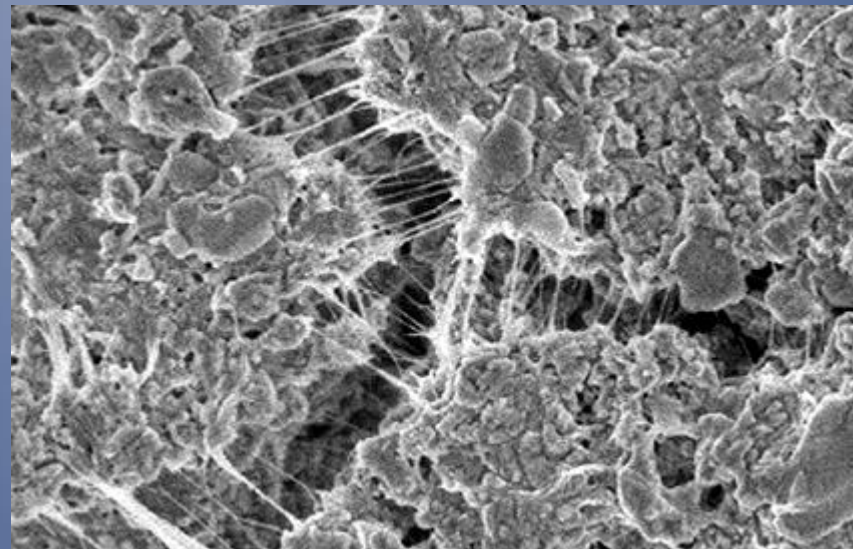


Prof. Wellington Repette
Coordinators

www.linden.ufsc.br

Phone: (48) 3721 3633

- New technologies for the reinforcement of concrete and other cement-based products
- Synthesis and performance of nanostructured agglomerates



- ❖ Addition of carbon nanotubes in concrete to increase of strength

LINDEN has the *i* of *i*nnovation

INTERDISCIPLINAR LABORATORY FOR DEVELOPMENT OF NANOESTRUCTURES

LABSIN

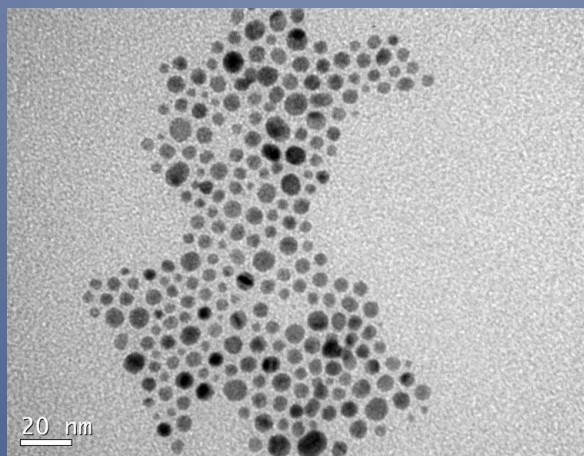


Chemistry

- Development of Metal Nanoparticles with antimicrobial properties
- Surface Coating with pre-ceramic Nanoparticles to prevent corrosion
- Interference in quorum-sensing bacteria embedded in nanoparticles



Prof. Cesar Franco
Coordinator



LCP – Laboratory of polymeric processes control

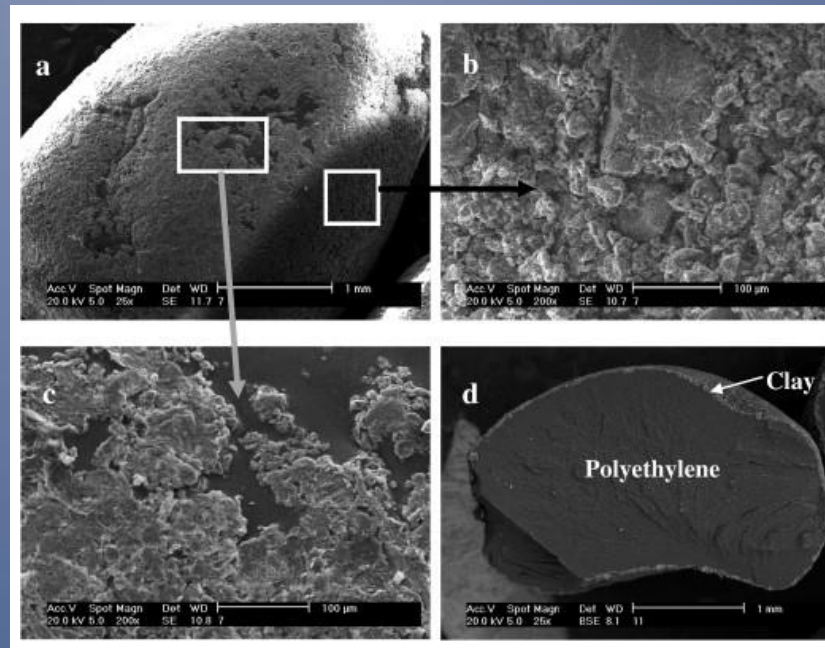


Chemical Engineering



Prof. Ricardo Machado
Coordinator

- Modeling, simulation, optimization, instrumentation and process control
- Processes related to Food Industry, Oil and Natural Gas



Micrographs - Clay and polymer particles

LABORATORY OF PHARMACOTHECNIQUE AND COSMETOLOGY

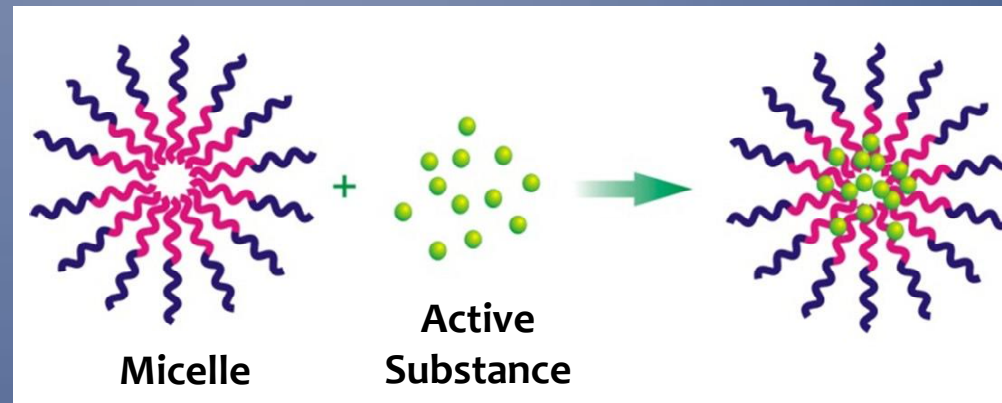


Pharmacy

- Controlled release of drugs and cosmetics
- Research of skin penetration processes



Prof. Elenara Senna
Coordinator



ASSOCIATED LABORATORIES

LCME – Central Laboratory of Electronic Microscopy



Institutional



Prof. André Pasa
Coordinator

www.linden.ufsc.br

Phone: (48) 3721 3633



Leica DMI6000 B
Microscope



JEOL JSM-6390LV
Scanning
Electron Microscope
with tungsten filament



TEM - JEM2100 –
Transmission
Electronic Microscope,
for metal and ceramic
materials.



TEM - JEM1011 -
Transmission Electronic
Microscope , for analysis of
organic and biological
systems



JEOL JSM-6701F Scanning
Electron Microscope
High resolution: 1 nm (30kV)

LINDEN has the **i** of **i**nnovation

INTERDISCIPLINAR LABORATORY FOR DEVELOPMENT OF NANOSTRUCTURES

PLANNING FOR 2014

- *Organization*
- *Marketing*
- *Projects*

LINDEN's ACTIVITIES CRONOGRAMM											
AREA	ACTIVITY	2014									
		APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
STRUCTURE	Linden team hiring	█	█	█							
	Associated laboratories mapping	█	█								
	Work plan definition	█	█	█	█						
	Budget and purchasing equipment			█	█	█	█	█	█	█	

LINDEN's ACTIVITIES CRONOGRAMM

AREA	ACTIVITY	2014									
		APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
MARKETING	graphic material development	■									
	Creation of websites e social networks		■								
	Maintenance of websites and social networks; E-mail marketing (clients)			■	■	■	■	■	■	■	■
	Prospection of new clients		■	■	■	■	■	■	■	■	■
	Participation in congresses, symposiums and workshops								■	■	■



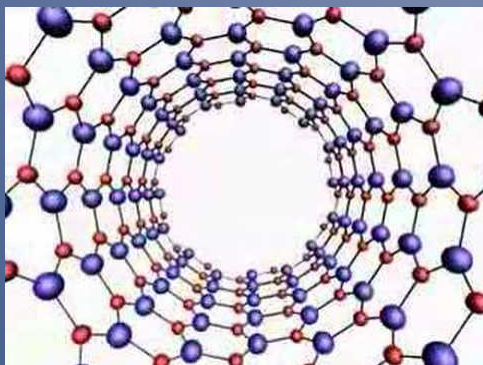
Maintenance of websites and social networks



LINDEN's ACTIVITIES CRONOGRAMM

AREA	ACTIVITY	2014									
		APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
PROJECTS	Survey of nanotechnology companies		■	■							
	Present LINDEN business plan to companies			■	■						
	Selection of companies for pilot-project			■	■	■					
	Projects development						■	■	■	■	
	Success case presentation									■	

NANOTECHNOLOGY COMPANIES



NANOTECHNOLOGY PARTNER COMPANIES

TNS Tecnano Solution



Nanovetores Encapsulados de Alta Tecnologia



Inovacura Biomateriais LTDA



NANOATIVA



COMPANIES WITH NANOTECHNOLOGY RESEARCH

PARTNER COMPANIES WITH INOVATIVE PROJECTS RELATED TO NANOTECHNOLOGY	
Flexsolar	
Dentcare Ltda	
T-cota	
Nanoendoluminal	
Photônita	



TRADITIONAL COMPANIES INVOLVED WITH NANOTECHNOLOGY

TRADITIONAL PARTNER COMPANIES		
SECTORS	Metal casting	Tupy
	Cosmetics	Boticário
		Natura
	Nutrition	Sadia
		Perdigão
	Pharmaceutics	Pfizer
		Eurofarma
		Aché
	Petrol / Oil	Petrobras
		Schlumberger
		Halliburton

NEW PROJECTS...



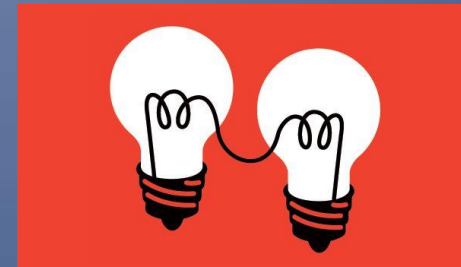
➤ Easy access to knowledge



➤ Well defined project costs structure.



➤ Ease in sending budgets and contracts to clients



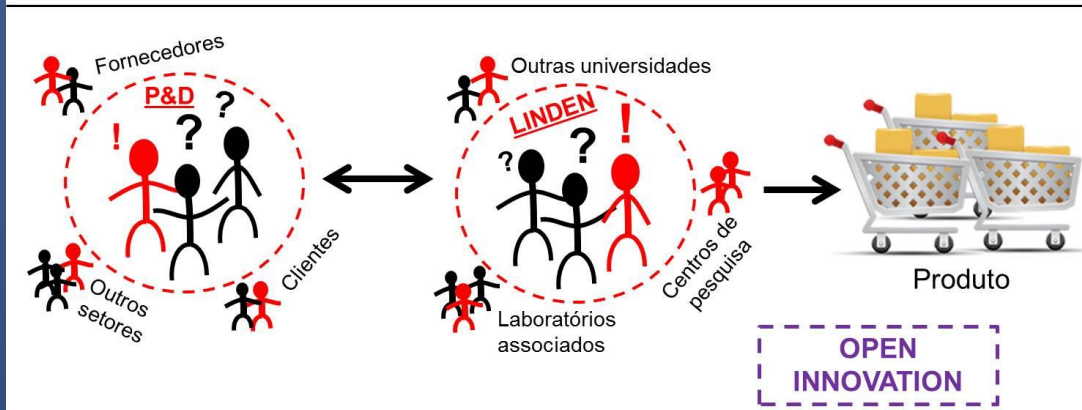
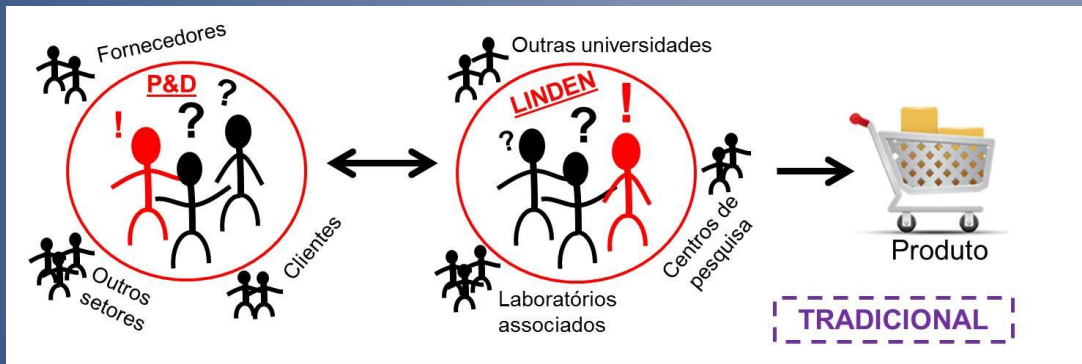
➤ “OPEN INNOVATION CONCEPT”

OPEN INNOVATION

➤ What is the Open Innovation concept?

➤ Advantages?

➤ Disadvantages?



➤ How can LINDEN act using the Open Innovation model?





THANK YOU!



SisNANO Program

Strategic Labs

1. Laboratório de Nanotecnologia para o Agronegócio - LNNA (Embrapa Instrumentação, SP)
2. Centro de Caracterização em Nanotecnologia para Materiais e Catálise - CENANO (INT, RJ)
3. Laboratório Nacional de Nanotecnologia - LNNANO (CNPEM, SP)
4. Laboratório Multiusuário de Nanotecnologia do CETENE - LMNano (CETENE, PE)
5. Laboratório de Química de Nanoestruturas de Carbono - LQN (CDTN/CNEN, MG)
6. Laboratório Estratégico de Nanometrologia do Inmetro (INMETRO, RJ)
7. Laboratório Multiusuário de Nanociências e Nanotecnologia - LABNANO (CBPF, RJ)
8. Laboratório Integrado de Nanotecnologia - LIN-IPEN (IPEN/CNEN, SP)

Associated Labs

1. Laboratório Regional de Nanotecnologia - LRNANO (UFRGS/RS)
2. Centro de Caracterização e Desenvolvimento de Protocolos para Nanotecnologia - CCDPN (UNESP/SP)
3. Central Analítica em Técnicas de Microscopia (eletrônica e óptica) da Universidade Federal do Ceará (UFC/CE)
4. Laboratório de Síntese de Nanoestruturas e Interação com Biosistemas - NANOBIOSS (UNICAMP/SP)
5. Laboratório de Caracterização Estrutural - LCE (UFSCar/SP)
6. Laboratório Associado de Desenvolvimento e Caracterização de Nanodispositivos e Nanomateriais - LANano (UFMG/MG)
7. Laboratório de Nanobiotecnologia para Desenvolvimento, Prototipagem e Validação de Produtos para o SUS (IBMP/PR)
8. Laboratórios Associados em Nanotecnologia - LARnano (UFPE/PE)
9. Laboratório Associado SisNANO - UFV (UFV/MG)
10. Laboratório de Nanociência e Nanotecnologia da Amazônia - LABNANO-AMAZON (UFPA/PA)
11. Laboratório de Eletroquímica e Materiais Nanoestruturados - LEMN (UFABC/SP)
12. Laboratório de Engenharia de Superfícies e Materiais Nanoestruturados da COPPE – LabEngNano/COPPE (UFRJ/RJ)
13. Laboratório Interdisciplinar para o Desenvolvimento de Nanoestruturas - LINDEN (UFSC/SC)
14. Núcleo de Bionanomanufatura (IPT/SP)
15. Centro de Componentes Semicondutores - CCS (UNICAMP/SP)
16. Núcleo de Apoio à Pesquisa em Nanotecnologia e Nanociências - NAP-NN (USP/SP)
17. Laboratório Central em Nanotecnologia - LCNano (UFPR/PR)
18. Laboratório de Fabricação e Caracterização de Nanodispositivos - LABDIS (PUC-Rio/RJ)



Strategic Labs



Associated Labs