

HIDS

International Hub for Sustainable Development
by Marco A. P. Lima

June | 2021



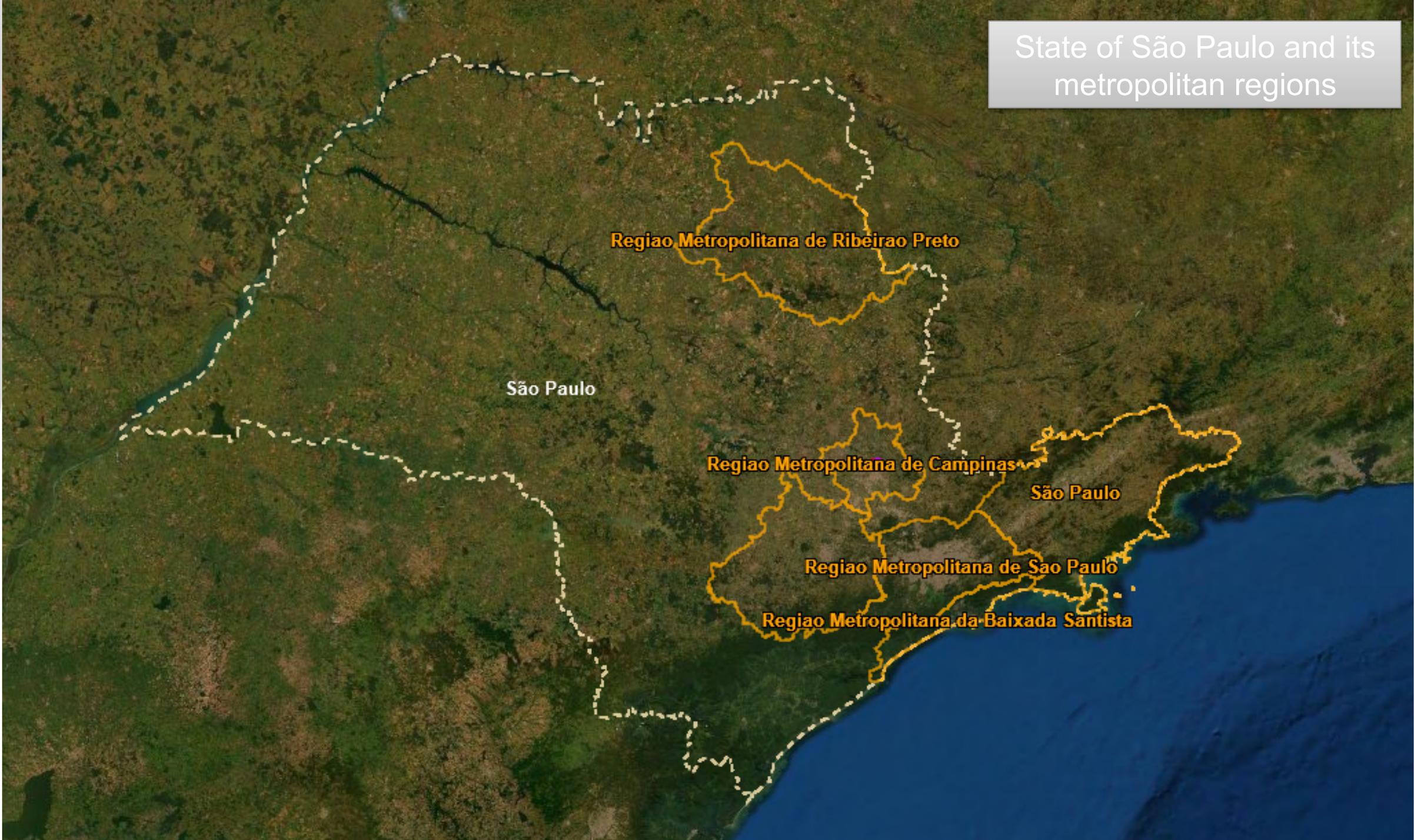
<https://www.unicamp.br/unicamp/noticias/2017/08/14/um-drone-na-mao-e-uma-ideia-na-cabeca>

A lecture for “Carbon Capture, Use, and Storage (CCUS)”, a discipline organized by Antonio Bannwart (FEM), Marcelo da Cunha (IE), Andrea Achoa (Equinor) and Marco A. P. Lima (IFGW)

Brasi



State of São Paulo and its metropolitan regions



Região Metropolitana de Ribeirão Preto

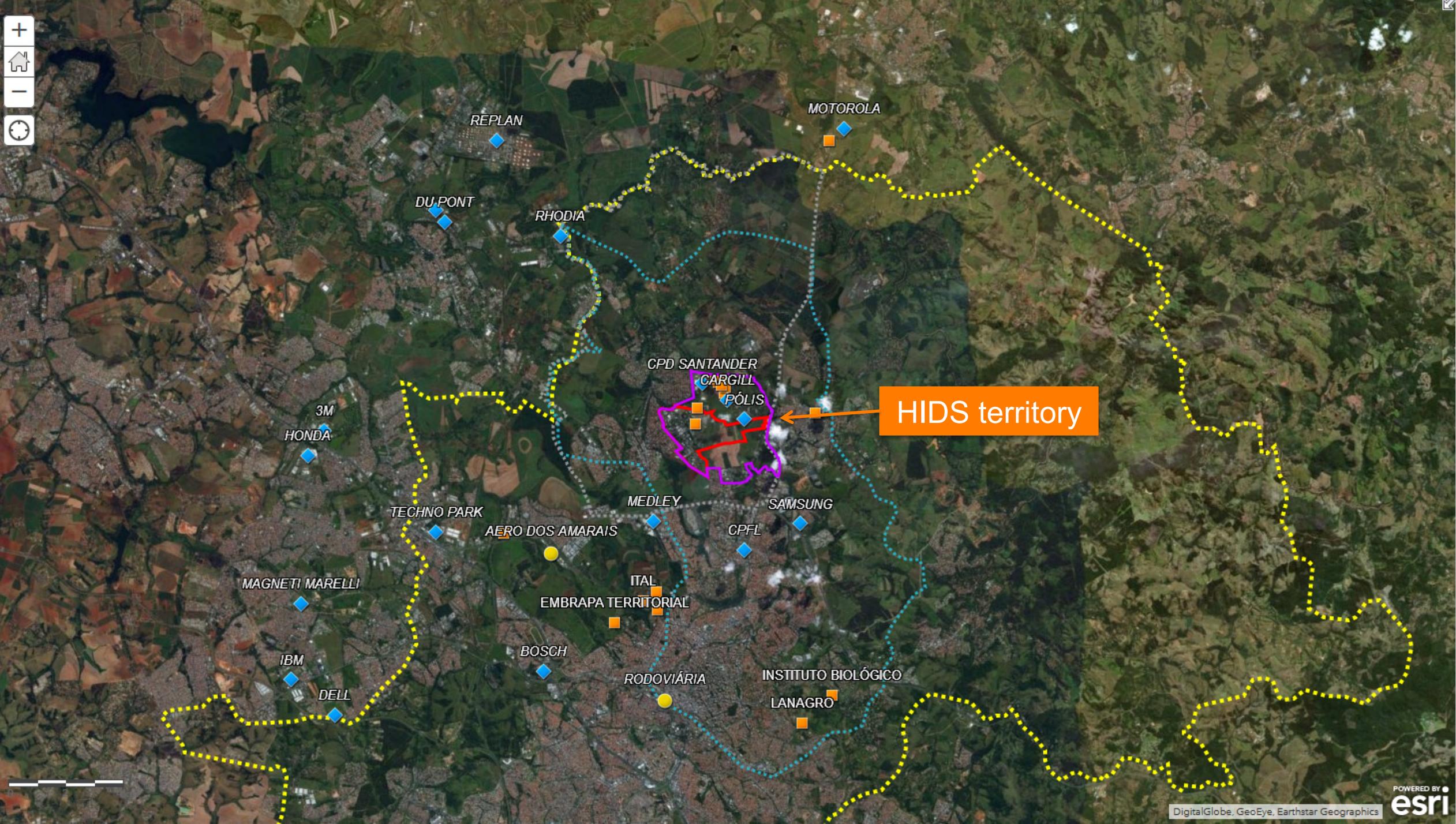
São Paulo

Região Metropolitana de Campinas

São Paulo

Região Metropolitana de São Paulo

Região Metropolitana da Baixada Santista



REPLAN

MOTOROLA

DU PONT

RHODIA

CPD SANTANDER

CARGILL

PÓLIS

HIDS territory

3M

HONDA

TECHNO PARK

MEDLEY

SAMSUNG

AERO DOS AMARAIS

CPFL

MAGNETI MARELLI

ITAL

EMBRAPA TERRITORIAL

IBM

BOSCH

RODOVIÁRIA

INSTITUTO BIOLÓGICO

DELL

LANAGRO

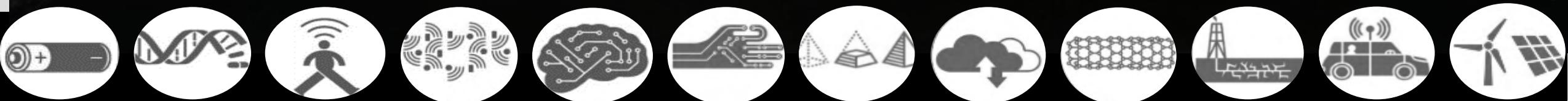


SUSTAINABLE DEVELOPMENT

A SUSTAINABLE AND SMART URBAN DEVELOPMENT MODEL, STRUCTURED AS A LIVING LAB

Contribute for the sustainable development process, bringing national and international efforts to build knowledge, innovative technologies and education of future generations, reducing and overcoming social, economic and environmental frailties of contemporary society.

DISRUPTIVE TECHNOLOGIES





UNICAMP IN NUMBERS	
6 Campuses	Campinas, Limeira, Piracicaba e Paulínia
24 Schools	Teaching and Research
2 Technical High Schools	COTUCA e COTIL
4 Hospitals	HC, Caism, Hemocentro, Gastrocentro 6 millions medical visits per year
21 Research Centers	Interdisciplinary
66 Academic programs	Undergraduate
159 Academic programs	Graduate (83 MsC; 72 Dr.; 4 Esp.)
17 Courses	Technical
Management	HES, HRP e 7 AMEs
1.865	Faculty
94	Researchers
7.471	Active staff
20.081	Undergraduate students
17.846	Graduate students
3.253	High school students

Incubated Companies



Startups



P&D Labs




PARQUE CIENTÍFICO E TECNOLÓGICO DA UNICAMP



336 postos de trabalho, sendo 270 desses dedicados à P&D



350 mil m² de área, sendo 100 mil m² de área urbanizada



12 projetos de P&D com a Unicamp



18 empresas na Incubadora



07 laboratórios de pesquisa de grandes empresas



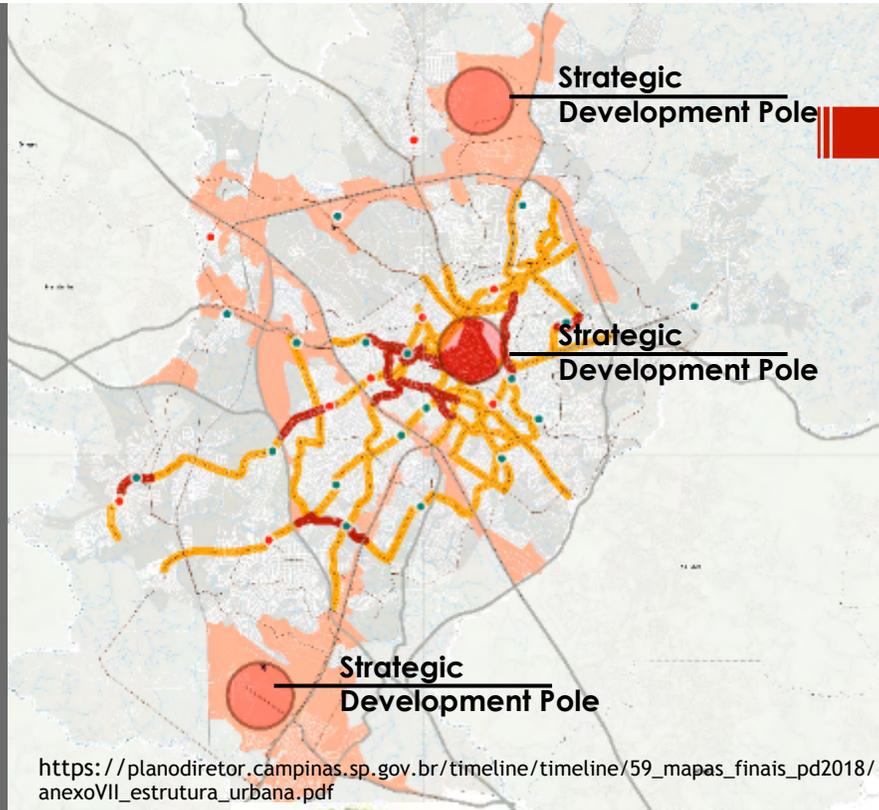
12 startups



FAVOURABLE BOUNDARY CONDITIONS

POLOS DE DESENVOLVIMENTO SÃO PAULO

- Health and Pharmaceutical
- Metallurgical, Machinery and Equipment
- Automotive Industry
- Chemical and Plastic Industry
- Oil and refining products
- Biofuels
- Food and Beverage
- Pulp and Paper Industry
- Agribusiness
- Aerospace Industry, Technological Services



https://planodiretor.campinas.sp.gov.br/timeline/timeline/59_mapas_finais_pd2018/anexoVII_estrutura_urbana.pdf



INTERNATIONAL HUB FOR SUSTAINABLE DEVELOPMENT

HIDS



HIDS | A Model for a Sustainable District

Living Labs

- All of them must be directly related to Sustainable Development;
- Connectivity: they must “talk” to each other, to the territory and serve as a model;
- Some of the of Living labs must be strongly related to the Brazilian Economy (testing new technologies and attracting new stakeholders). For this, it requires 3 conditions:
 - i. Density;
 - ii. Complexity;
 - iii. Flexibility.

THE SELF-SUFFICIENCE IN CLEAN ENERGY FROM HAFENCITY



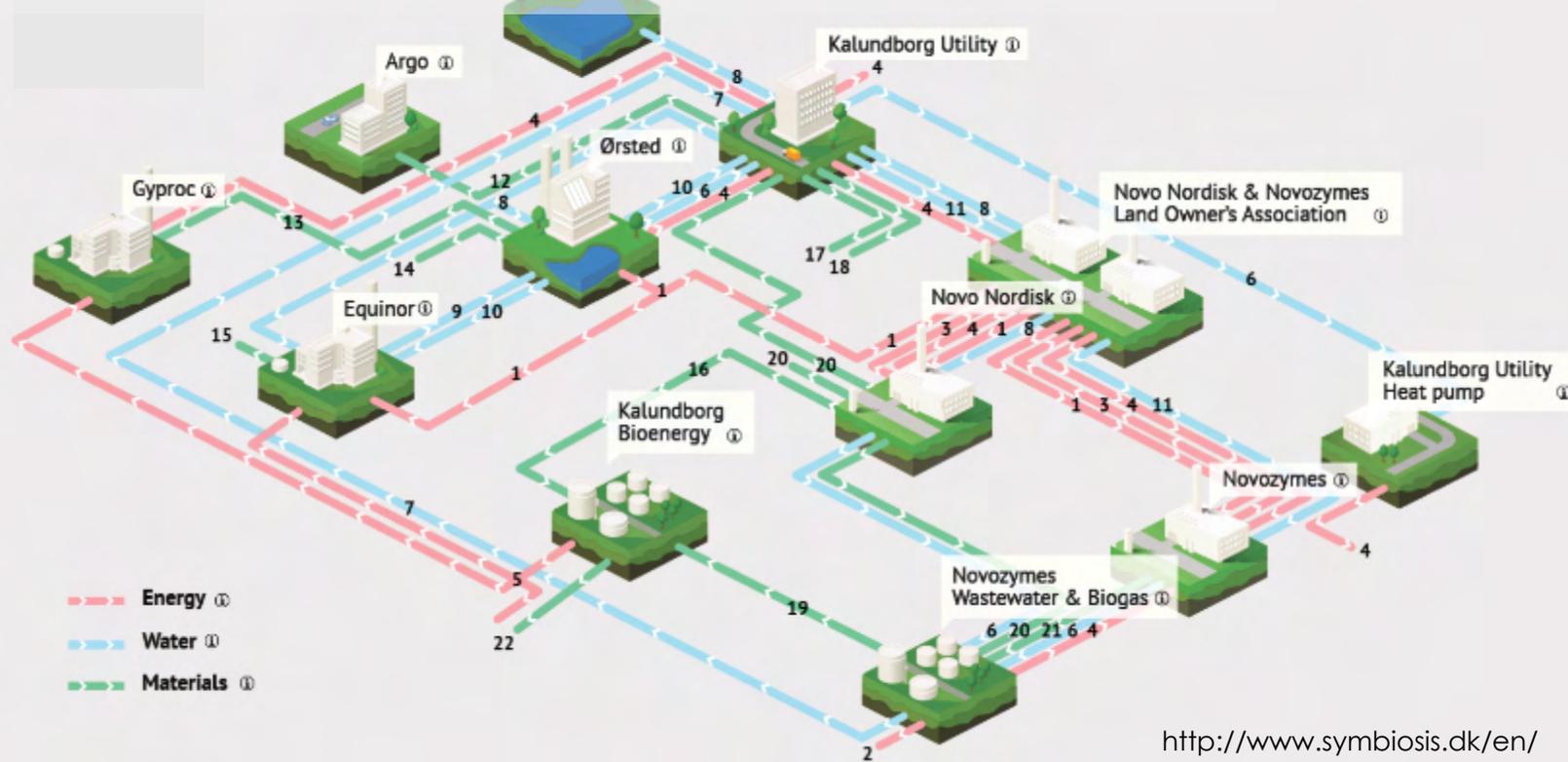
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THE CIRCULAR ECONOMY FROM KALUNDBORG - DENMARK



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THE DISRUPTIVE HEALTH TECHNOLOGY OF SURREY - CANADA



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Living Labs

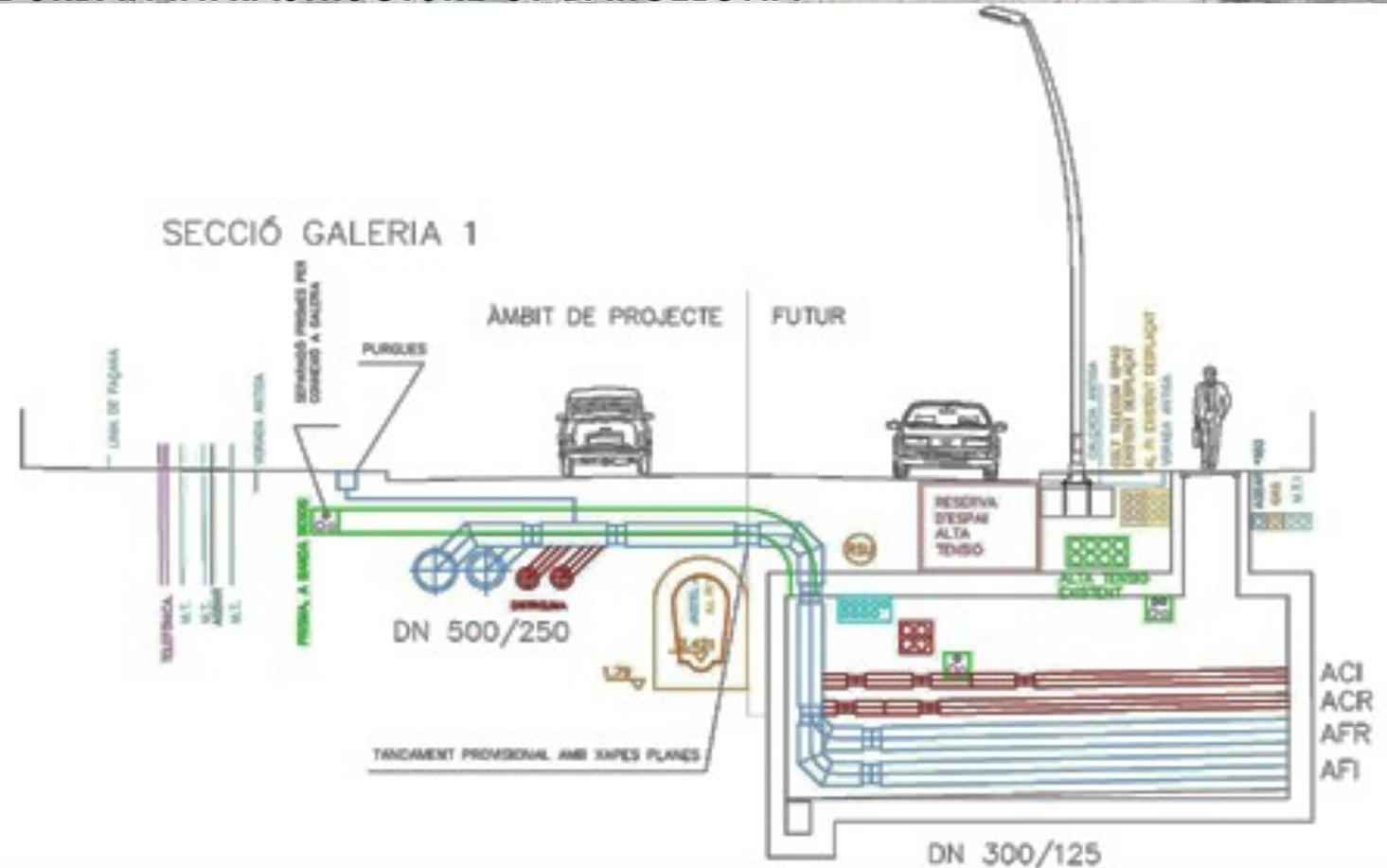
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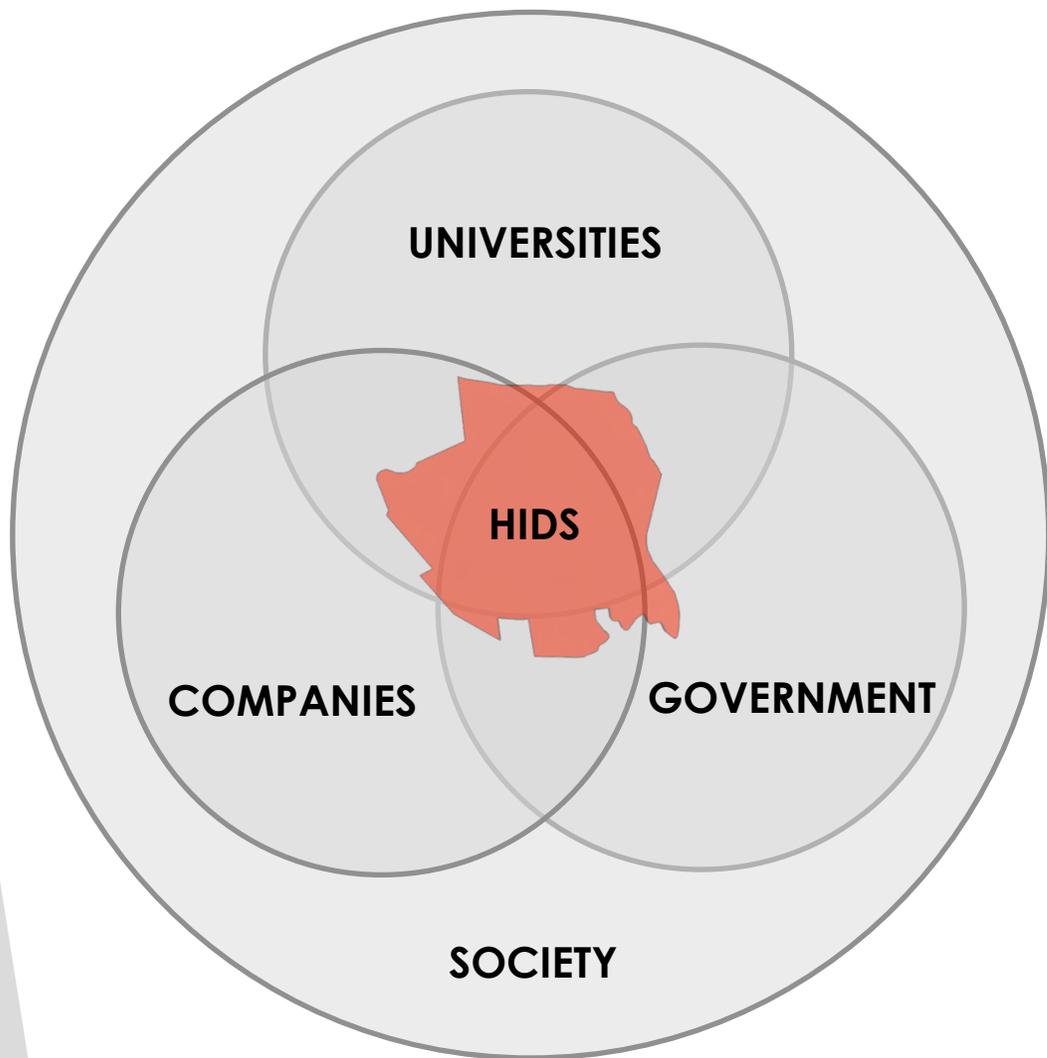
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THE URBAN INFRASTRUCTURE OF BARCELONA



SYNERGY FOR HUB BEGINNING



Founders Consultive Council of HIDS



UNICAMP



- São Paulo State Economic Development Secretariat;
- Campinas City Hall;
- Universities;
- Entrepreneurs and local owners;
- Local energy and water dealership.



PREFEITURA DE CAMPINAS



trb pharma
Ciência e Saúde como Princípio



Masterplan funding ~US\$1.0 million



HIDS

results and programming to develop the capacities of individuals, institutions and organizations with a view to overcoming global challenges

Courses and Learning Events

- Core diplomatic training
- Master's Degree
- Online platforms

Learning Solutions

- Online learning solutions
- Innovative learning tools
- Conferences and retreat facilitation
- Learning for better performance
- Organizational advisory services

SDG

- Peace; People; Planet; Prosperity
- Multilateral diplomacy
- Accelerating SDG implementation
- Satellite analysis and applied research

HIDS

Sustainable Development

- To accept the challenge of integrating nature and urban development under SDG-UN.

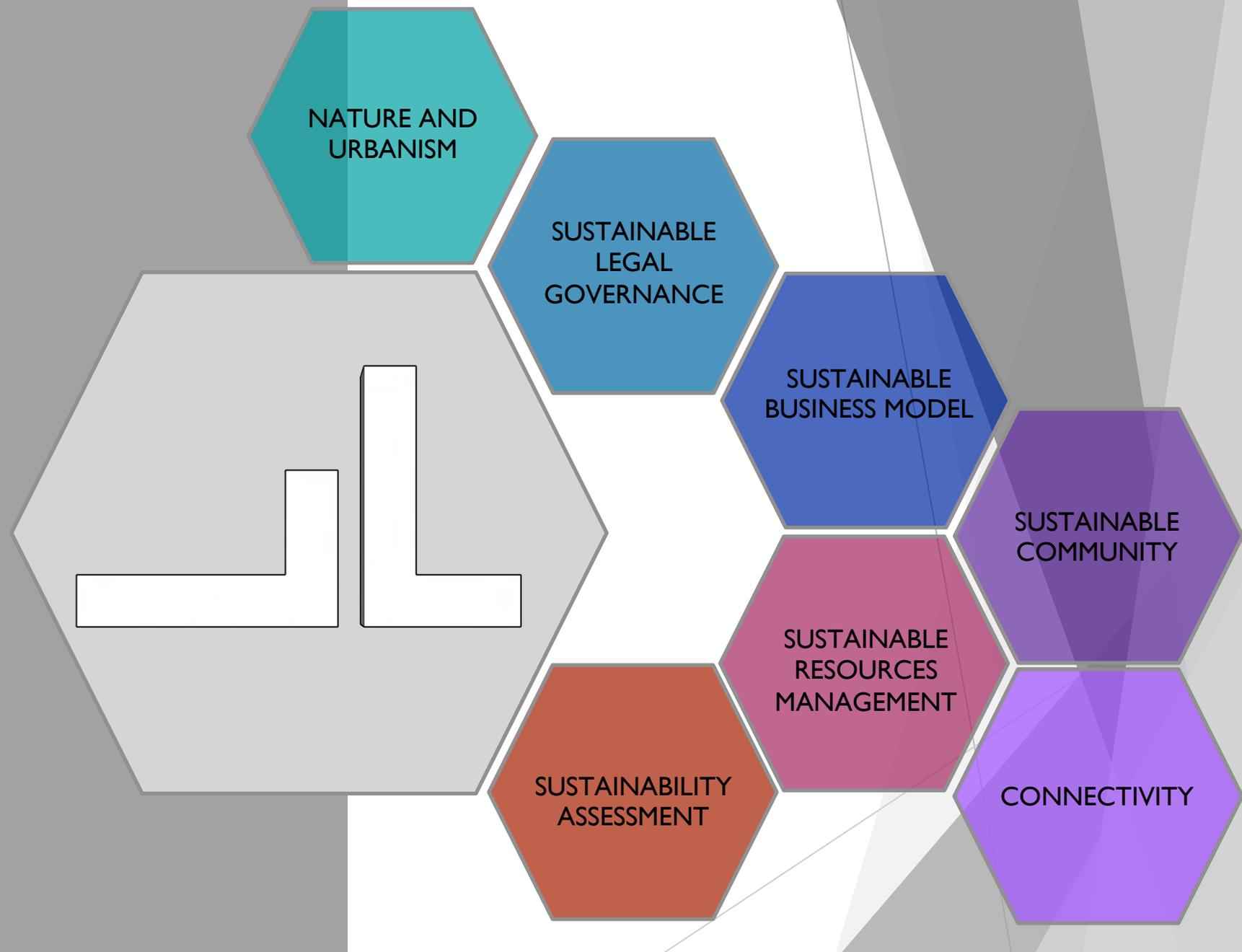
UNITAR experience

- To integrate your best practices in innovative strategies, approaches and methodologies into HIDS planning.
- To provide high-quality learning solutions to address the capacity development needs of HIDS.

HIDS

Steering
committee

- Physical-Spatial Design
- Socio- environmental Heritage
- Legal Strategy
- Business Model
- Sustainability Assessment
- Communication



LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
1) Socio-environmental Heritage of the HIDS	   	IB, IG, NEPAM, COCEN, COTUCA, IA, IFGW, CPQBA	
2) Sustainable Urbanism	     	FEC-FAU, IFGW, IG	
3) Urban Mobility	 	DPCT/IG, IMECC, IFGW	
4) Tatic Urbanism	 	DEPI, IA, IFGW, NICS	
5) Electric Vehicles	  	FEM, FEEC, IFGW, IC, CEPETRO, IG	
6) Trails and bike paths	  	FEF, IFGW, IMECC, IG	

SUSTAINABLE
LEGAL
GOVERNANCE

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
7) Governance, laws and regulation for sustainability	 		

SUSTAINABLE
BUSINESS MODEL

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
8) Synergies and partnerships	 	IE, INOVA	
9) Transformative innovation	 	IG	

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
10) Human Rights	      	DEDH, IFCH, IMECC, NEPO	
11) Social Friction	  	IA, IEL, IMECC, CEL, NEPO	
12) Well-living/ Preventive Medicine	 	FCM, FEF, IFCH, CEPRE, CEL, FENF, FCF, IFGW, IMECC, IC, NEPO, CPQBA, CEB	
13) Education 4.0	 	IEL, FE, CEL, NICS, IG, COTUCA	
14) Art and culture		IA	

SUSTAINABLE
COMMUNITY

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
14) Genomics and Biotechnology for Health and Agriculture	      	CBMEG (GCCRC, CQMED), LACTAD	

CONNECTIVITY

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
15) Data Science	    	FEEC, IC, IFGW, FT, IMECC, NICS, CEB	
16) Digital Transformation	   	IG	

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
17) Good Skin	   	FCF, FCM, FEA	
18) Energy	   	FEEC, IB, FEQ, IFGW, IQ, IC, CEPETRO, IG	
19) Water	    	IQ, FENF, FEEC, FEM, FEQ, IFGW, IC, COTUCA, CBMEG	
20) Food Cycle	     	FEAGRI, FEZ, FCF, FCA, IQ, IFCW, FEQ, IG, COTUCA	  

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
21) Zero GHG emissions (human related green house gases)	     	FEC, IE, FEQ, IFGW, IB, CEPETRO	
22) Zero waste	     	FEC, FEM, FENF, FEQ, IQ, CBMEG	
23) Circular Economy	     	IE, FEQ, IQ, CEPETRO, CPQBA, IG	
24) Sustainable processes and Products	   	FEQ	

LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
25) Sustainability management	  	IE, FEC, NEPAM, IC, FEM, IB, CEPAGRI, FCM, DEPI, FENF, IG	
26) Sustainability transition	    	IG	



LIVING LAB (LL)	SDG	UNICAMP UNITS (local interest)	EXTERNAL INSTITUTIONS
27) Local CCUS (aiming the territory)?	      	FEM, IE, IFGW (organizers of this discipline)	EQUINOR (sponsor of this discipline)

After 5 minutes break, the Eng. Paulo Lima will present the challenges of keeping track of the carbon footprint of a typical resident of this district. Your challenge is: how CCUS can be useful to this Hub? At the end of the class, mail to maplima@unicamp.br, one or two page report (name it RA123456.pdf) with your ideas. This is an individual task. I will be available during the last hour (in the virtual classroom) to answer questions and to help you on whatever you need.

INTERNATIONAL HUB FOR SUSTAINABLE DEVELOPMENT

To aggregate efforts to produce knowledge, innovative technologies and education

www.hids.depi.unicamp.br

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