

SYMPOSIUM

NATIONAL
ACADEMIES *Sciences
Engineering
Medicine*

Issues at the Intersection of Engineering and Human Rights

Participation and Inclusion in Engineering Decision-Making

Slido Question: How did you feel?

slido

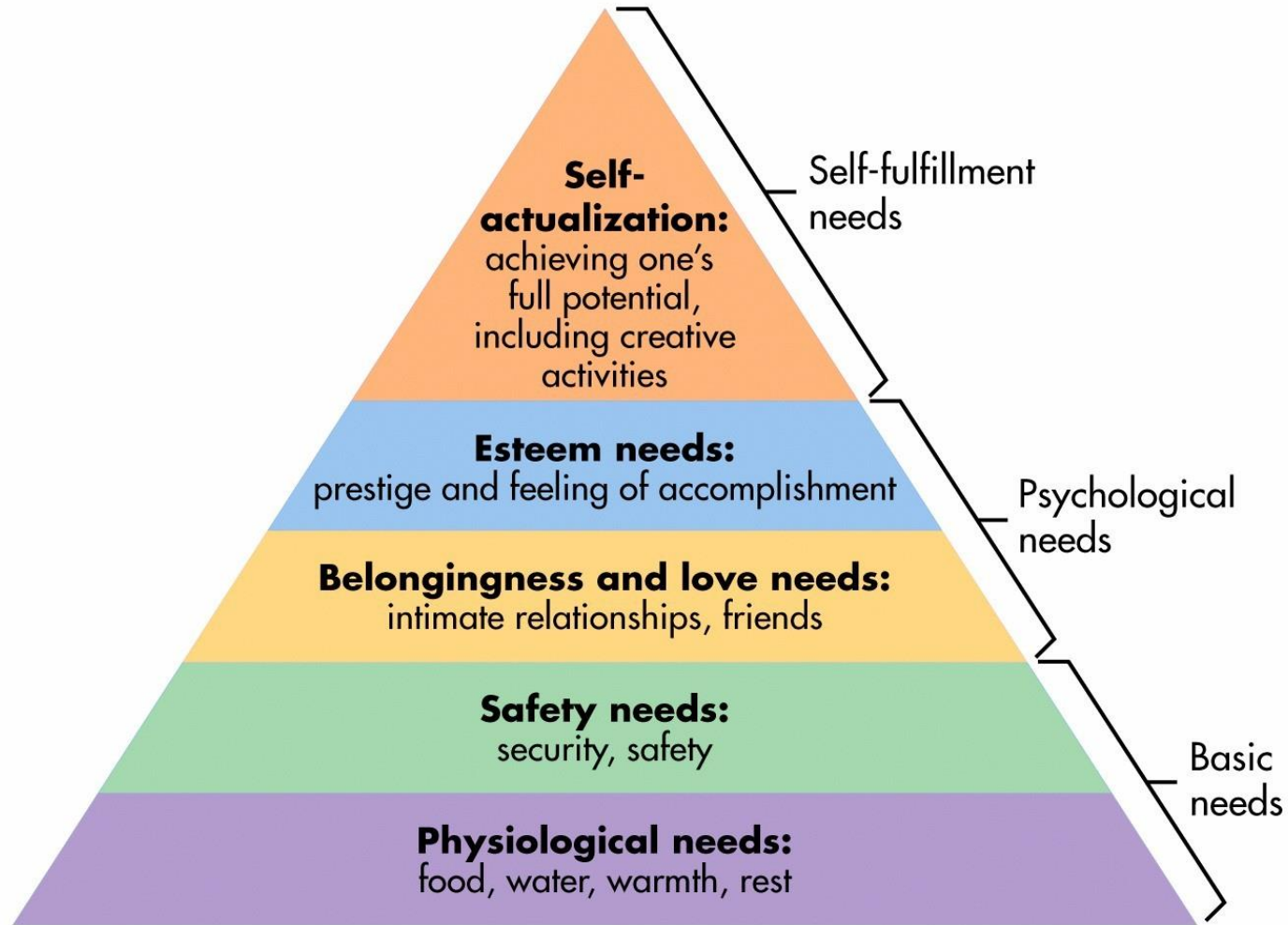
Please download and install the
Slido app on all computers you use



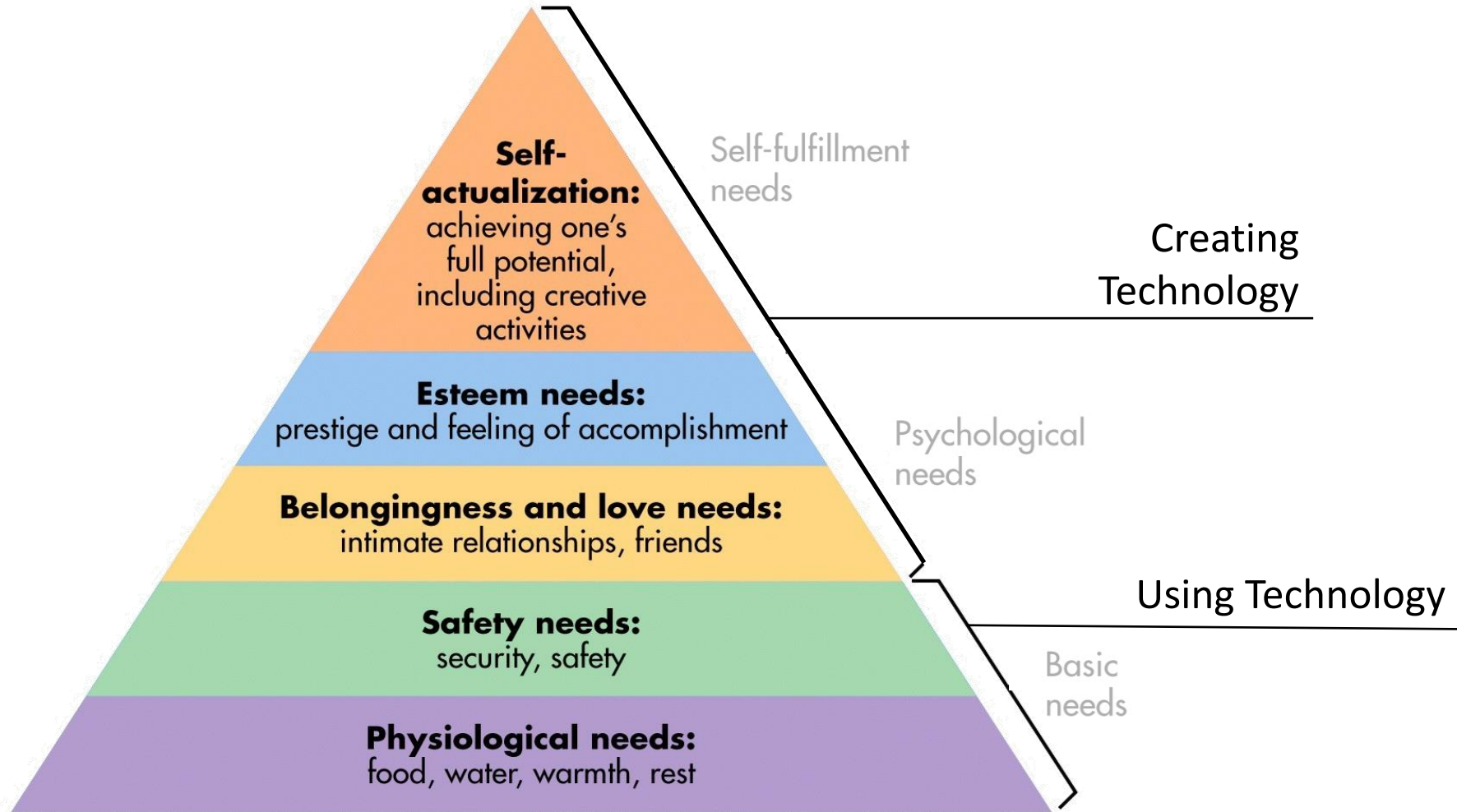
How did you feel?

① Start presenting to display the poll results on this slide.

Maslow's Hierarchy of Needs



Using A Technology Lens



The Importance of Participation & Inclusion in the Problem Solving Process

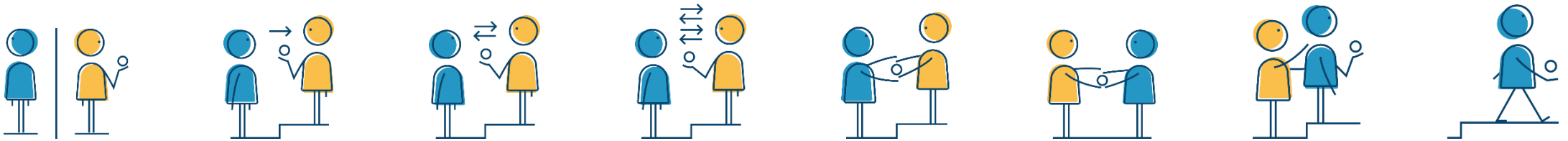
- Using tools
- Building skills
- Design thinking
- Problem solving
- Giving and receiving feedback
- Building relationships
- Creativity
- Confidence
- Transformation
- Agency
- Combating dependance
- Increased understanding and empathy

A Framework for Understanding and Increasing Participation



Types of Participation

- Categorizing roles of stakeholders
 - **Consultation:** providing information, sharing opinions, giving feedback
 - **Partnership:** making decisions
 - **Leadership:** directing



Consultation



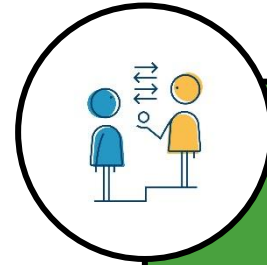
Input

- single event
- one-way flow of information
- no feedback or decision-making



Interaction

- single event
- two-way flow of information
- no feedback or decision-making



Iteration

- multiple events
- two-way flow of information
- opportunity for feedback on refinements
- no decision-making



Consultation

Partnership



Collaboration

- stakeholder input is based on areas of expertise
- stakeholders are involved in decision-making, but without the ultimate authority



Co-Creation

- stakeholder input is unrestricted
- stakeholders have equal decision-making authority



Partnership

Leadership



Empowerment

- designer/implementor provides input
- designer/implementor is involved in decision-making, but without the ultimate authority

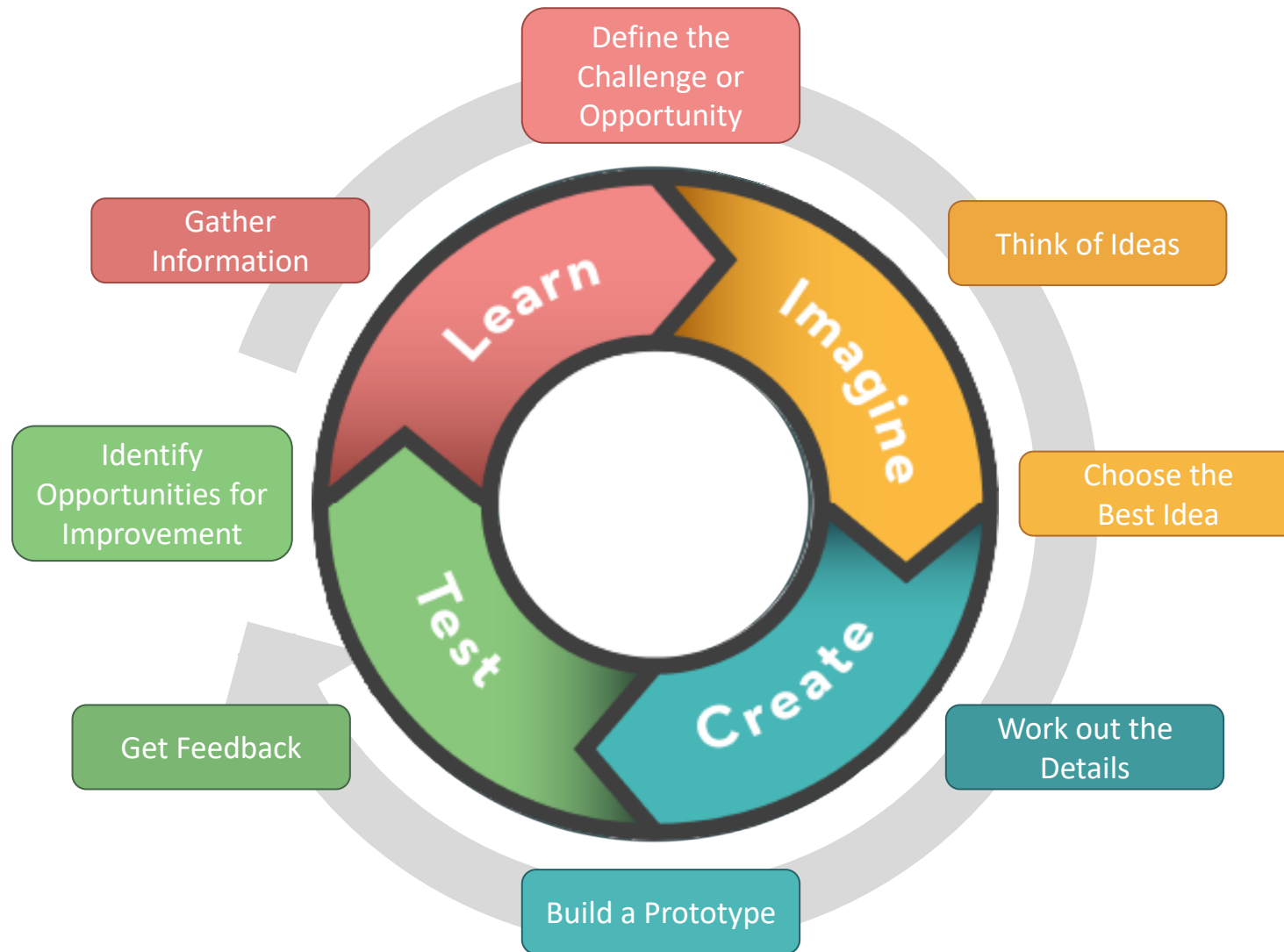


Ownership

- designer/implementor does not provide input
- designer/implementor is not involved in decision-making



Leadership



Building Resilience through Innovation, Design and Grassroots Empowerment



Design for Social Cohesion





"I felt proud when I made the technology; since I made the technology I have not slept hungry for days now."



"I felt happy and proud of myself for having developed a wheel cart, some of my friends asked me where I got it from, I told them that my team and I developed it and they were shocked and proud of the great work."



“In fact, I met a lot of friends from here where we have sat and eaten together. Some of them I used to see them as enemies, but now we are tight friends, and [it] is the CCB that did that.”



"I was expecting the training to change me from being bad to good. Like I said before, that I was a raider, but now, I am a scientist with technologies that have not been there before."

Participation and Inclusion in Engineering Decision-Making Panel



Issues at the Intersection of
**ENGINEERING &
HUMAN RIGHTS**

A Symposium

NOVEMBER 18-19

Washington, D.C.

John B. Kleba

Aeronautics Technological
Institute – Brazil



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<https://www.labcts.org/>

The Engaged Engineering research program

Social change

empowerment

Engaged Engineering

post-colonial critique

Buen Vivir

agents of transformation

sociotechnical movements

Exclusion forms

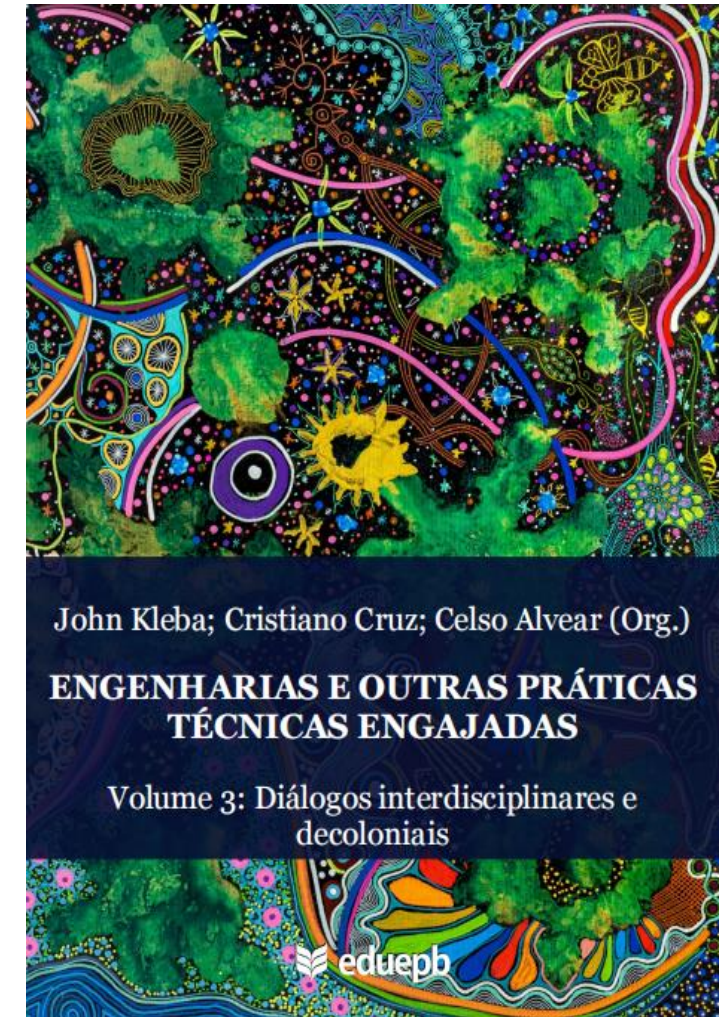
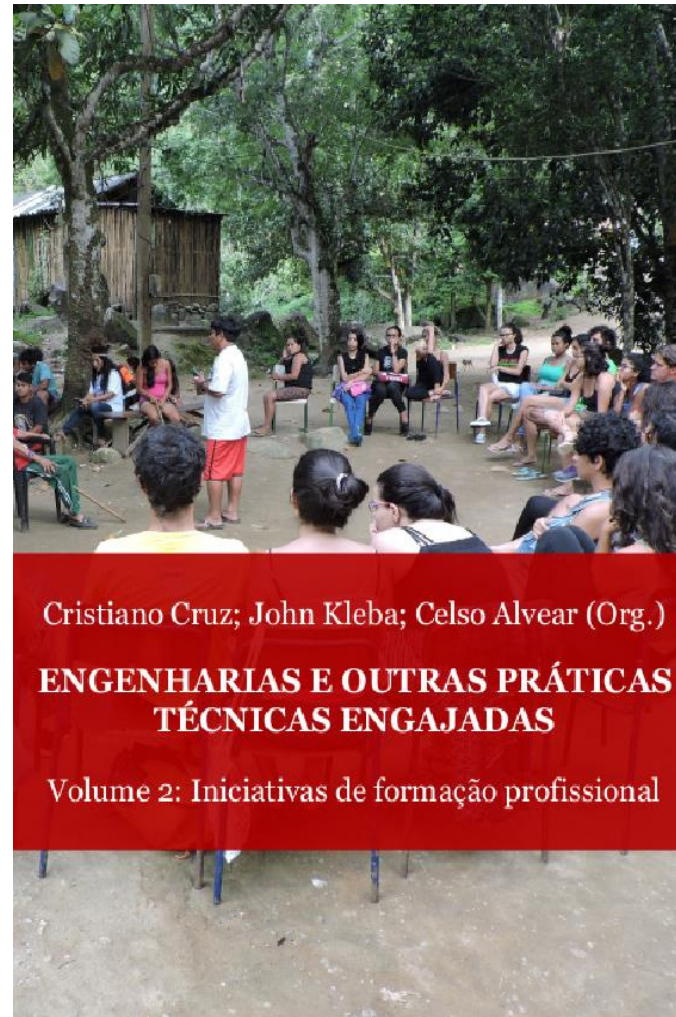
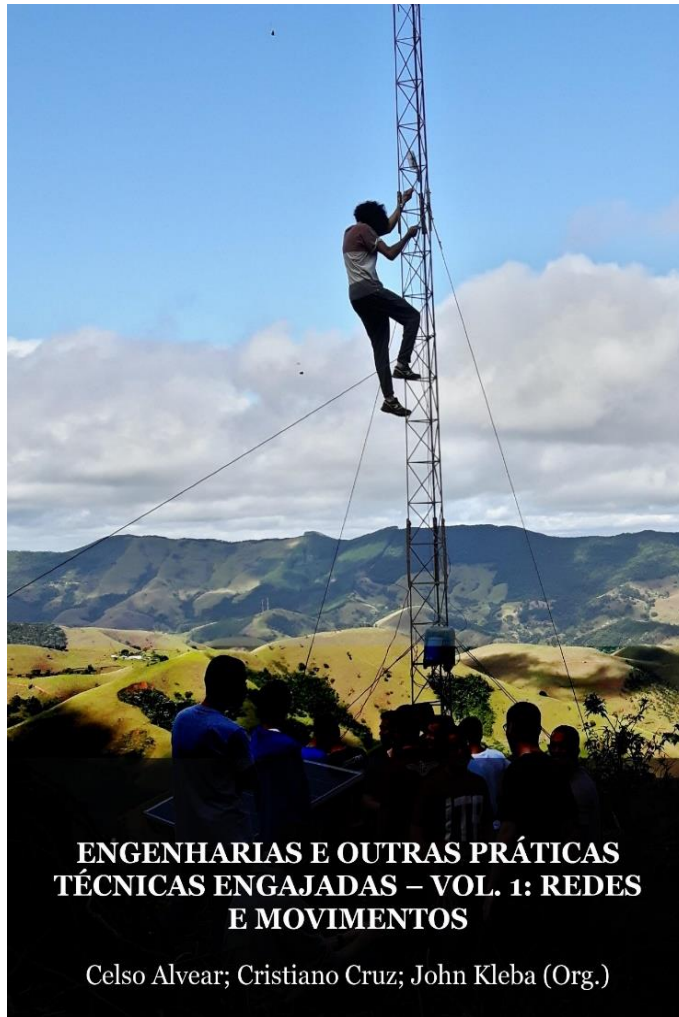
post-development

conventional engineering

Global South

Science and Technology Studies

Book trilogy - Engaged Engineering and other Technical Practices





SUGESTÃO DE BACKHAUL ENTRE UFPA E BOA VISTA DO ACARÁ

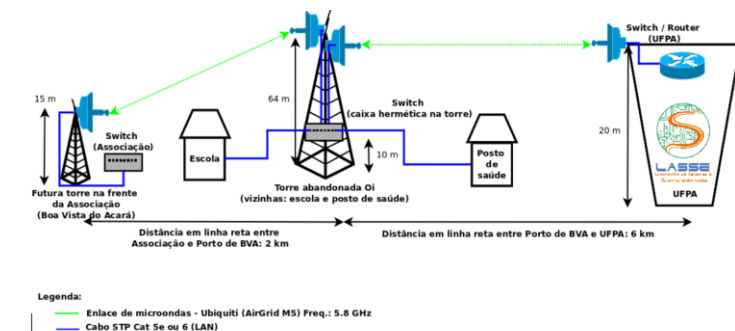


Figura 1 - Croqui da arquitetura da Rede projetada.

Source: <https://www.labcts.org/>

Can participatory interventions induce change in people trapped in exclusion patterns?

Prioritizing human interactions in participatory technical projects enhances socio-emotional and cognitive development in pupils with low self-esteem.

Highlights:

- Story-telling and cultivating social ties.
- Integrating pupils' talents in creative activities.
- Inviting to completely new experiences.

How can we incorporate more human rights dimensions into the technical project?

- Encouraging connections to public policies.
- Collaborating with social movements.
- Evaluating if more empowering dimensions can be integrated into the project.
- Exploring decolonial perspectives.



Indigenous people's
cartography of rights and
threats

<https://caci.cimi.org.br/>



“While you are closing your eyes to reality,
the forest guardian Ari Uru-Eu-Wau-Wau, my
childhood friend, was murdered for
protecting nature.” Txai Surui, COP 26.

<https://revistacenarium.com.br/>

Empowering communities to advance their political awareness, agendas, and capabilities



Source: Ygor Melo, Conference at ITA: “Teto Brasil”, April 2023.



Mapping the Rights of People Living in Favelas

MAPAS E CARTOGRAFIAS



Source: Panorama das Favelas & Comunidades Invisibilizadas do Estado de São Paulo.
Teto/Insper/Arq. Futuro/Diagonal, 2024

THANK YOU!

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