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SPACE INNOVATION

Designing for Social Innovation

New Space Economy

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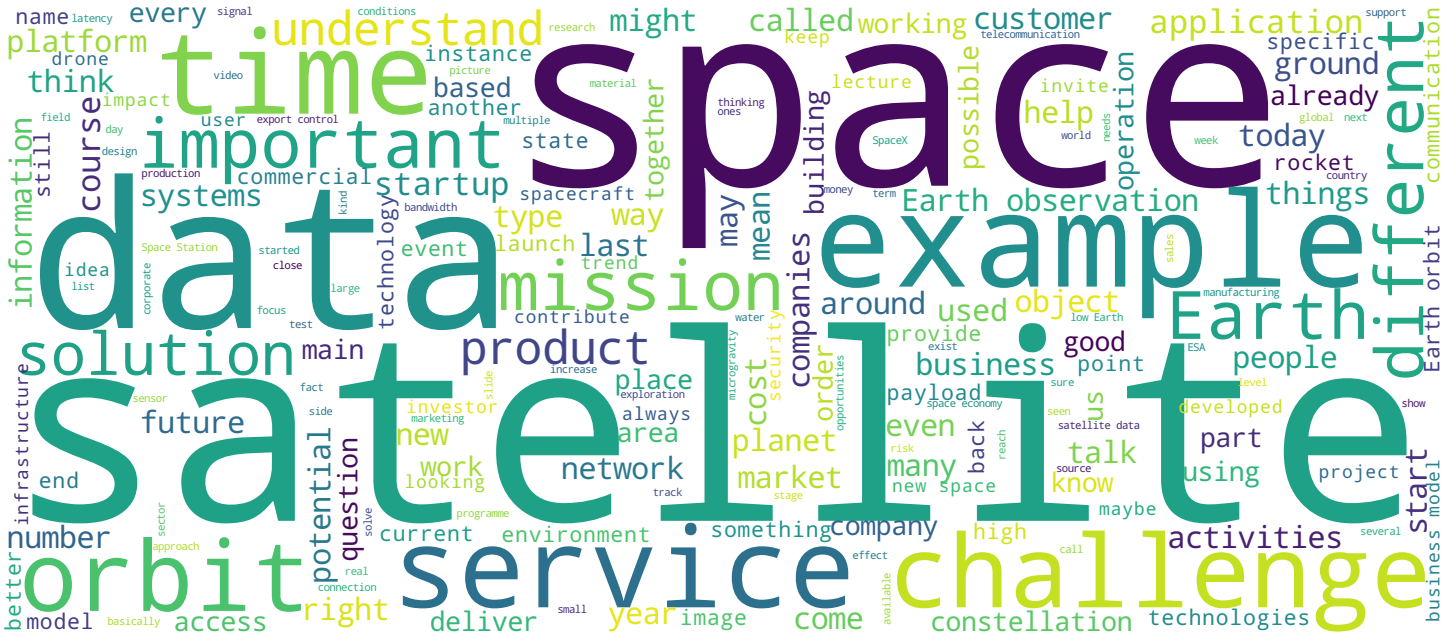

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Video

EPFL

3 key takeaways

1. Tackle an **existing** and **relevant problem**
2. Think in **interconnected systems**
3. Track the **impact holistically**

▪ Tech4Impact

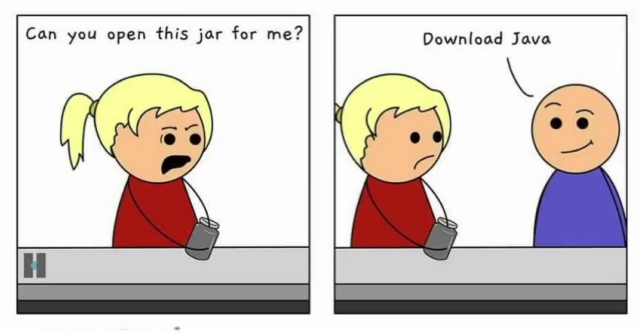
Hello everyone. My name is Alessandra and I am the Head of Tech4Impact, EPFL's Action Tank that fosters impact-driven innovation and sustainable entrepreneurship. In the last sessions, you have been learning about current and future technology developments from satellites, remote sensing to data intelligence, and you have looked at how this exciting ecosystem is filled with opportunities and potential to grow. Today, I'm here to talk to you about designing for social innovation. Basically, how to make sure that the innovative technologies you are working on contribute to build a more sustainable future for people and the planet. What I want you to take out from this session are three things. First, make it your mission to design a solution that tacks an actual challenge that will help society further and focus in truly and deeply understanding it. Second, thinking systems and how is everything interconnected so you can come up with truly sustainable solutions. And last but not least, track the impact of your activities holistically and put measures in place to continuously improve it.

Notes

Summary

0m 05s

Tackle an existing and relevant problem



So let's start with the first point. Tackling a challenge. We know engineers and scientists get to work on amazing, cutting edge technologies, but we don't always know what are the challenges or problems that these technologies can contribute to solve. To avoid this, I would like you to start by thinking about, what challenge do we want to address? What is the problem or need that exists and is relevant to be solved?

Notes

Summary

1m 15s

Understanding the problem

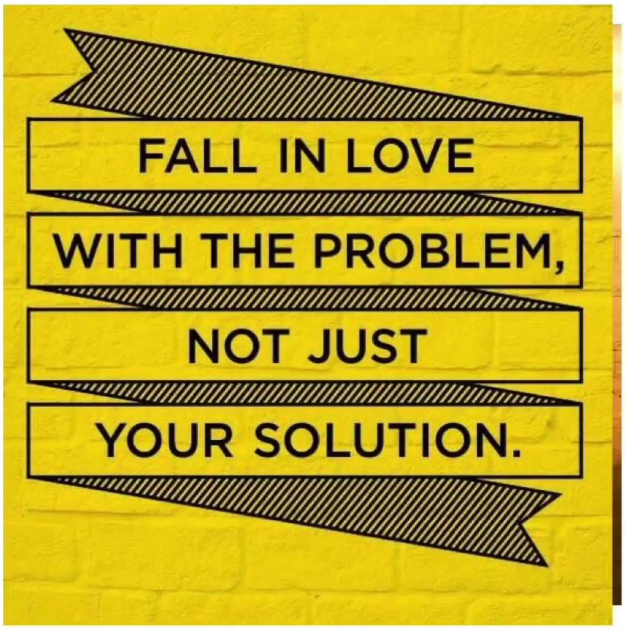
- Who has this problem?
- Is there proof that the problem is real?
- Why is this problem important?
- What is driving the problem?

To help you, we can review some questions. First, let's think about who has this problem. Are we talking about people? The planet? Young? Old? What type of activity on which ecosystem? Next, we can think, do we have proof that this problem is real? You need to talk to as many people as possible who are experiencing this problem or have any connection to it to test if the problem is actually rooted in real context and to challenge your assumptions. We also need to think, why is this problem important? Or to quote the famous test, why should we care? Not every problem is worth solving, and specially not every problem is truly relevant for the future of society and the planet. A good reference point to consult is the UN 2030 Agenda that lays out a list of very relevant challenges.

Notes

Summary

1m 42s



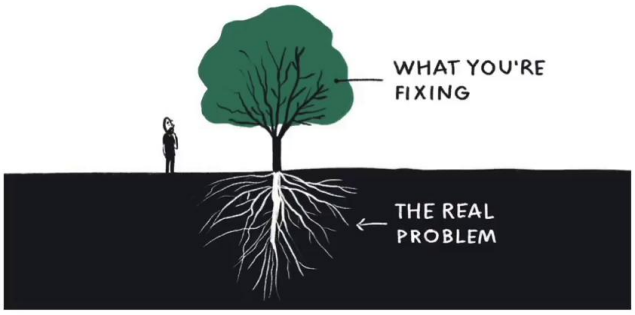
But please consider that there's a lot of times a difference between who your beneficiary is and who your customer is. For example, if you're developing a solution for the government or an NGO who are paying you to do so, but your solution gets actually used by local farmers who in this case would be your beneficiaries. Beneficiaries are not always the ones who can or are willing to pay, in contrast to a customer who in this case would be doing so. To conclude, let's keep in mind that you need to fall in love with the problem and not the solution, because you can always iterate and adapt your solution, but creating a problem that doesn't exist or that has no importance at all is a bit harder to do. So you should be investigating, talking to as many people as you can, looking at what has worked in the past and what hasn't, and why, and aim to understand as much as you can of the challenge that you want to solve. On the long run, you will notice that this stage actually never truly ends. As you continue your journey of exploration and solution development, your understanding of the challenge will improve, and the way you frame it will be more and more accurate.

Notes

Summary

2m 41s

Think in systems



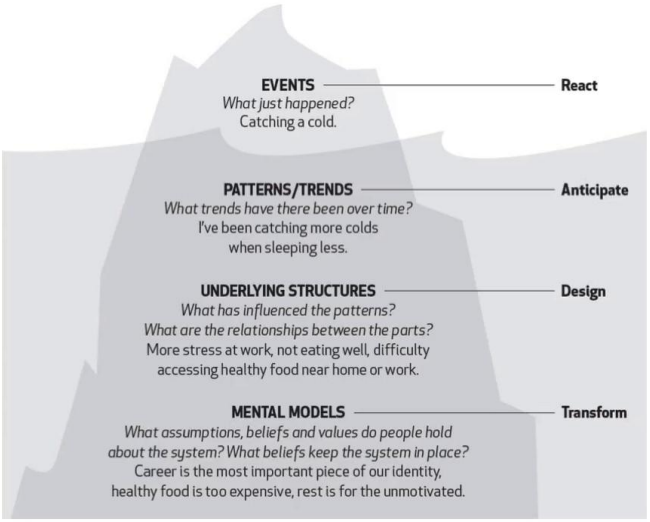
So the second key message of today is to think in systems, and this is crucial if we want to design solutions that create positive systemic change. A lot of times when we are tackling a problem, we do not realize that we're actually only seeing a small part of it, the so-called tip of the iceberg.

Notes

Summary

3m 52s

Think in systems

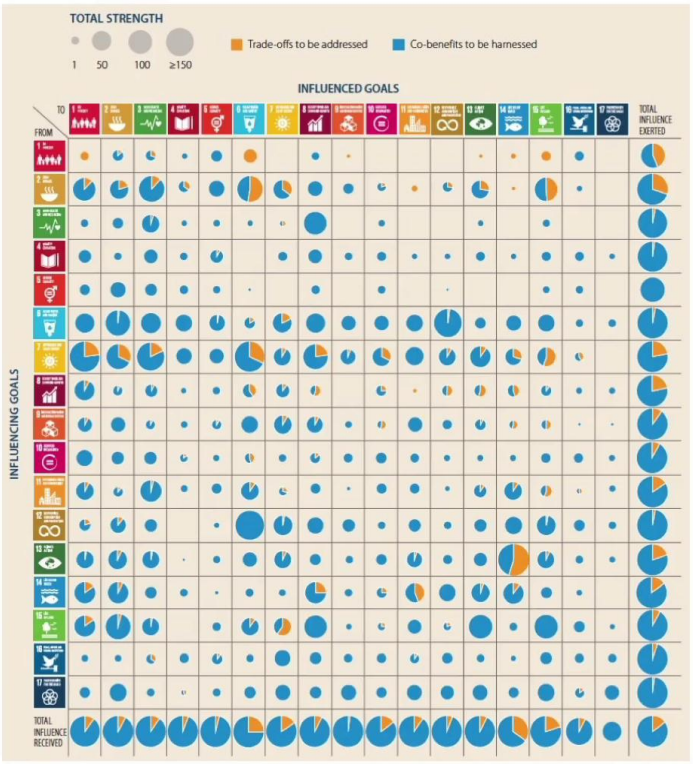


What you're seeing right now is the famous iceberg model, which is a tool to help you guide your systemic thinking. First, we look at the event that occurs, but then we look at what are the patterns of behavior and trends that might have been there over time. Next, we consider what are the supporting structures that influence these trends and the relationships among them? And finally, what are the mental models that explain the assumptions or values that keep the system in place?

Notes

Summary

4m 13s



Independent Group of Scientists appointed by the Secretary-General, Global Sustainable Development Report 2019: The Future is Now – Science for Achieving Sustainable Development, (United Nations, New York, 2019).

And as we're thinking of the underlying structures, we need to understand that everything is interconnected and that you need to consider the challenge in its next larger context. A chair in a room, a room in a house, a house in a city plan, a city plan in a country, a country in a continent, a continent on Earth, and finally, in the universe. In this table from the 2019 report, The Future is Now. The authors have mapped the interactions and tradeoffs among the 17 sustainable development goals, showing how social and environmental targets are unavoidably linked. It is not possible to carry out one intervention around one challenge without being influenced and influencing another. We might be focused on solving one thing, and we might not be seeing that we're causing a problem somewhere else.

Notes

Summary

4m 44s

Track the impact holistially

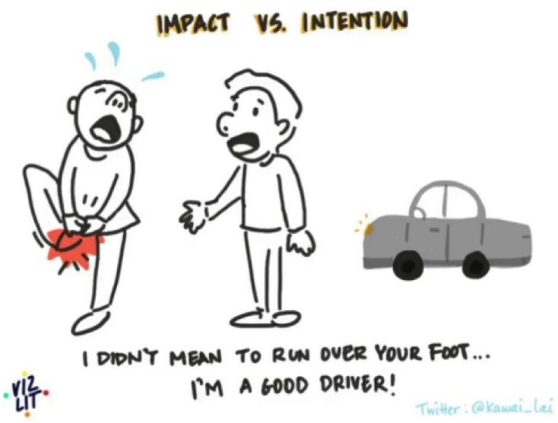
Thinking in systems at the underlying structures of the challenges and the interconnectedness of them would allow us to make conscious decisions that balance the gains and tradeoffs of all our activities. And designing for the future requires just that. Finally, as the last point of our session, track your impact.

Notes

Summary

5m 35s

Mapping



Tracking your impact means tracking the effect that our project and activities have on people and the planet. It's very important here that we do an honest analysis on the positive and negative impact our solution might have. And very important here is to do an honest analysis on the positive and negative impact our solution might have because we cannot see our solutions only from the good side of what we do or intend to do. We must be critical with what we do so we can also set up suitable goals for improvement.

Notes

Summary

5m 56s

levo

At EPFL we have developed a new framework called the Levo framework that allows startups to measure their internal and external impact as well as to set up goals and track their progress over time. I invite you all to try it out after.

Notes

Summary

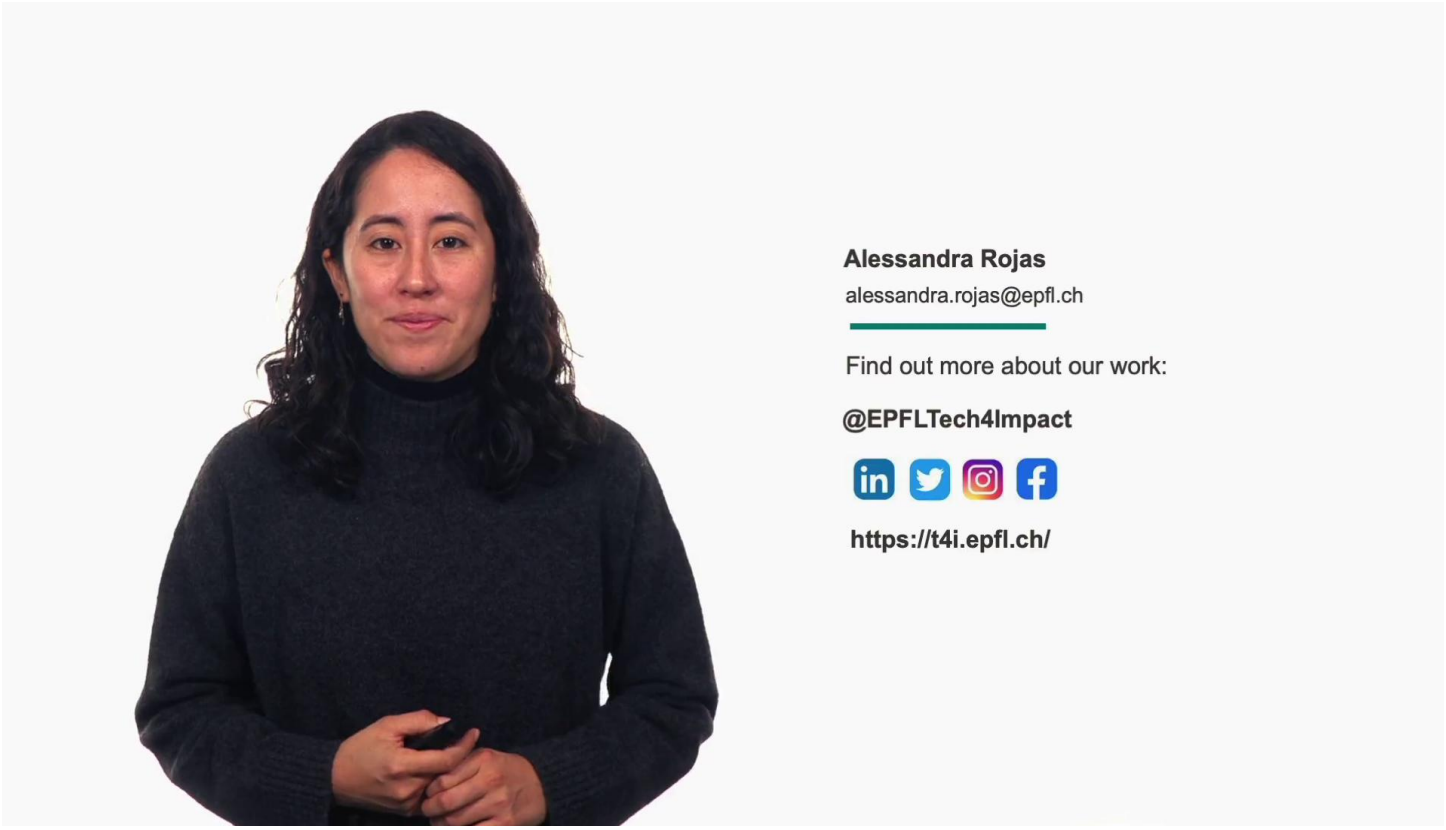
6m 31s

To close this short session I want to reiterate on my three points. Start by focusing on a real and relevant challenge, thinking systems, and track your impact. You have the opportunity to develop technologies that tackle our most pressing challenges and you need to design around the deep and systemic understanding of these challenges in order to create truly useful and sustainable solutions. I invite you to take on this chance and be an active contributor in building a more sustainable, inclusive, and regenerative future for all.

Notes

Summary

6m 46s



I am Alessandra Rojas and we invite you all to follow the activities of Tech4Impact and reach out if you have any questions. Thank you.

Notes

Summary

7m 20s