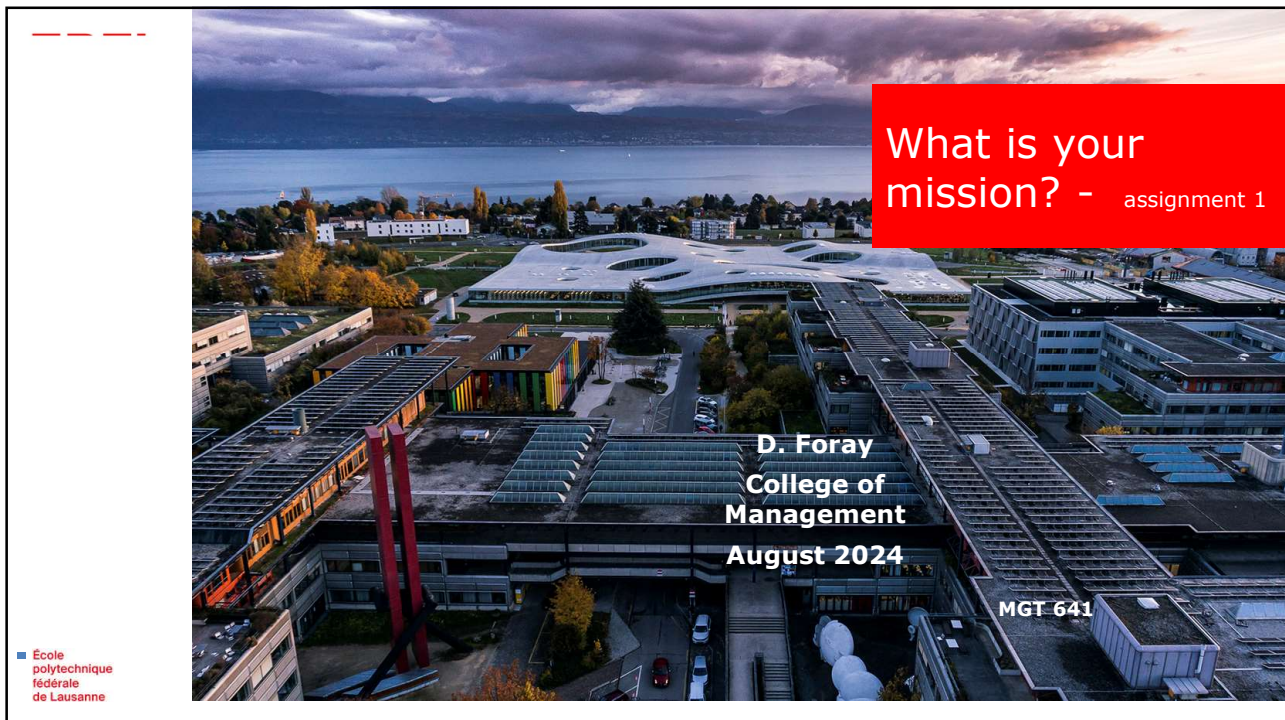




Grand challenges

EPFL



Horizon Europe – Mission areas



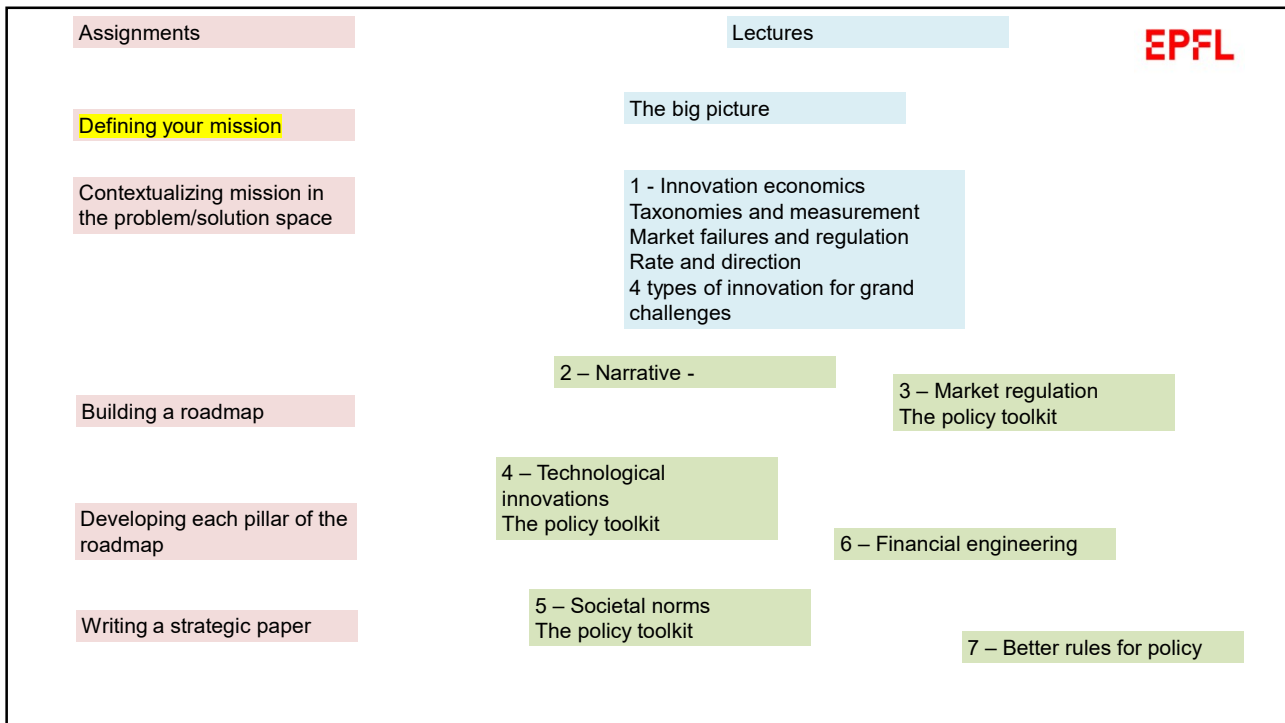
"Societies today face a **number of formidable challenges**, many of them global in scope. These include adverse climate change, devastating diseases that are not yet under control, uncontrolled population growth in many low-income countries combined with stagnant or declining populations in many high-income economies, rapid urbanization in low-income economies that places stress on the provision of public services, massive education needs in all parts of the world, the development of piped water and sanitation in poor countries, the increase in agricultural productivity in the South, and others (Foray, Mowery and Nelson, Research Policy).



Public R&D and social challenges: What lessons from mission R&D programs?

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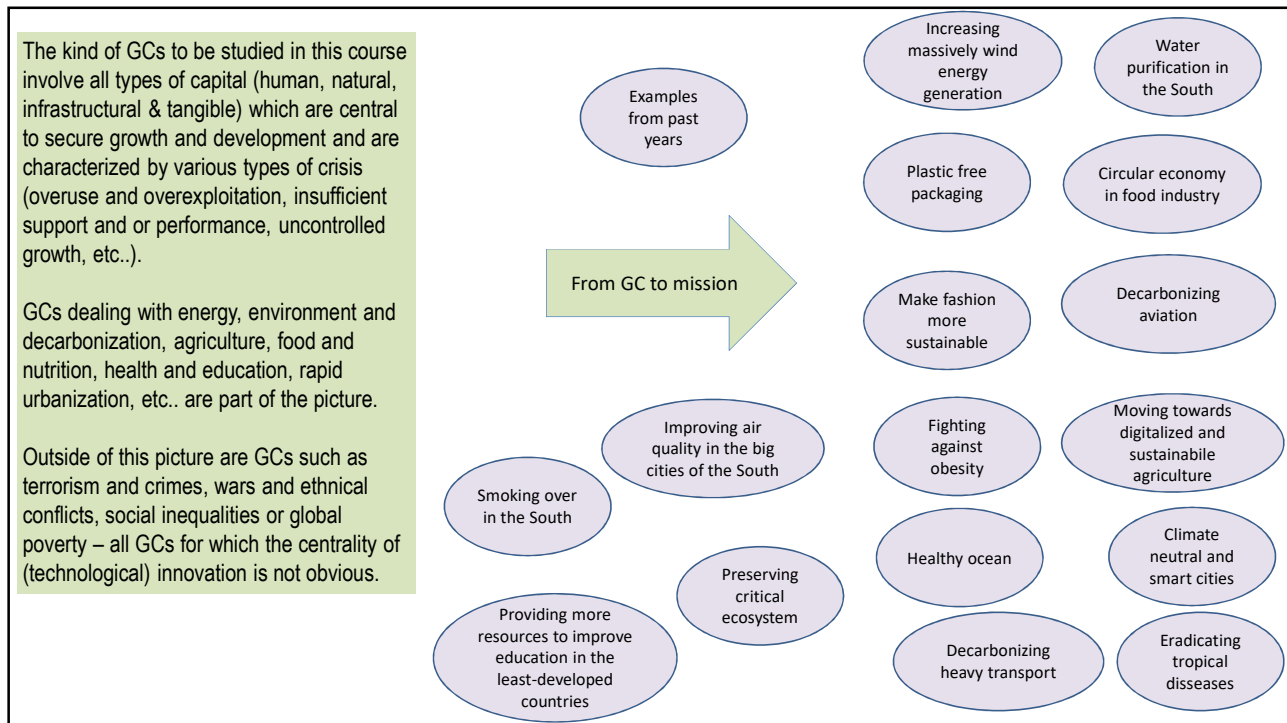


Assignment

EPFL

- Students form a team (max 3) and the team chooses a "mission" – related to a Grand Challenge (GC)
- It is important that all teams come to the first class with a tentative idea about the "mission" they would like to address in terms of innovation policy as well as with a short structured presentation.
- The final goal is to write a roadmap (policy brief) – covering the essential pillars of the desired transformation
- The essential pillars cover: repairing markets, promoting technologies, stimulating large scale behavioural changes, deploying new funding instruments and establishing better rules for policy
- Please read the next slides to have a better idea of what could be YOUR mission and how you should proceed to identify it

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3 qualifications



- The topic should deal with any kind of “capital” (natural, human, social, manufacturing) which is mis-managed, over-used, subject to irreversible depletion or significant decumulation (previous slide)
- It is useful to distinguish between *Grand Challenges* such as climate and *missions* which can be numerous within each GC.
 - *Environment as a GC includes numerous missions*
 - *Climate change as a GC includes numerous missions*
 - *Global health as a GC includes numerous missions*
 - Your task will be easier if your mission is **specific** in terms of industry, sector, problems and **place-based** in terms of geographical scope (but it can also be specific and **global**)
- The fact that the private sector is involved makes cases more challenging!

Geography	Place-based	Global
Sector/field/functional changes		
Specific	Water purification in developing countries Plastic free packaging in the EU Promoting clean air in the urban areas of the South Developing new renewable energy in country X	Decarbonizing aviation Climate neutral cities Healthy oceans Soil health and food
Generic	European green plan	Climate actions Good health

It will be more easy for you to elaborate a roadmap on a mission which is:
 specific and place-based
 specific (and global)

- For all of the missions you will choose, technological innovations are central BUT solutions are not just about technology. Solutions need also to include economic, societal and institutional changes.
- The roadmap will include actions/policy proposals:
 - To promote innovations (technologies)
 - To repair markets (externalities)
 - To influence large scale behavioural tipping (social norms)
 - To address the funding of systemic transformations (how to fund a big push)
 - To establish better rules for policy (coordination, discovery, alignment, including taking care of the potential losers)

Assignment 1 (optional)



- Students, teams can send slides with the following points
 - Description of the initial idea about a mission – which mission do you identify to be addressed by transformational roadmaps? Why this choice (importance for society, realistic objective, your competence/interest)?
- Send to dominique.foray@epfl.ch - subject header: MGT 641 – assignment 1

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