

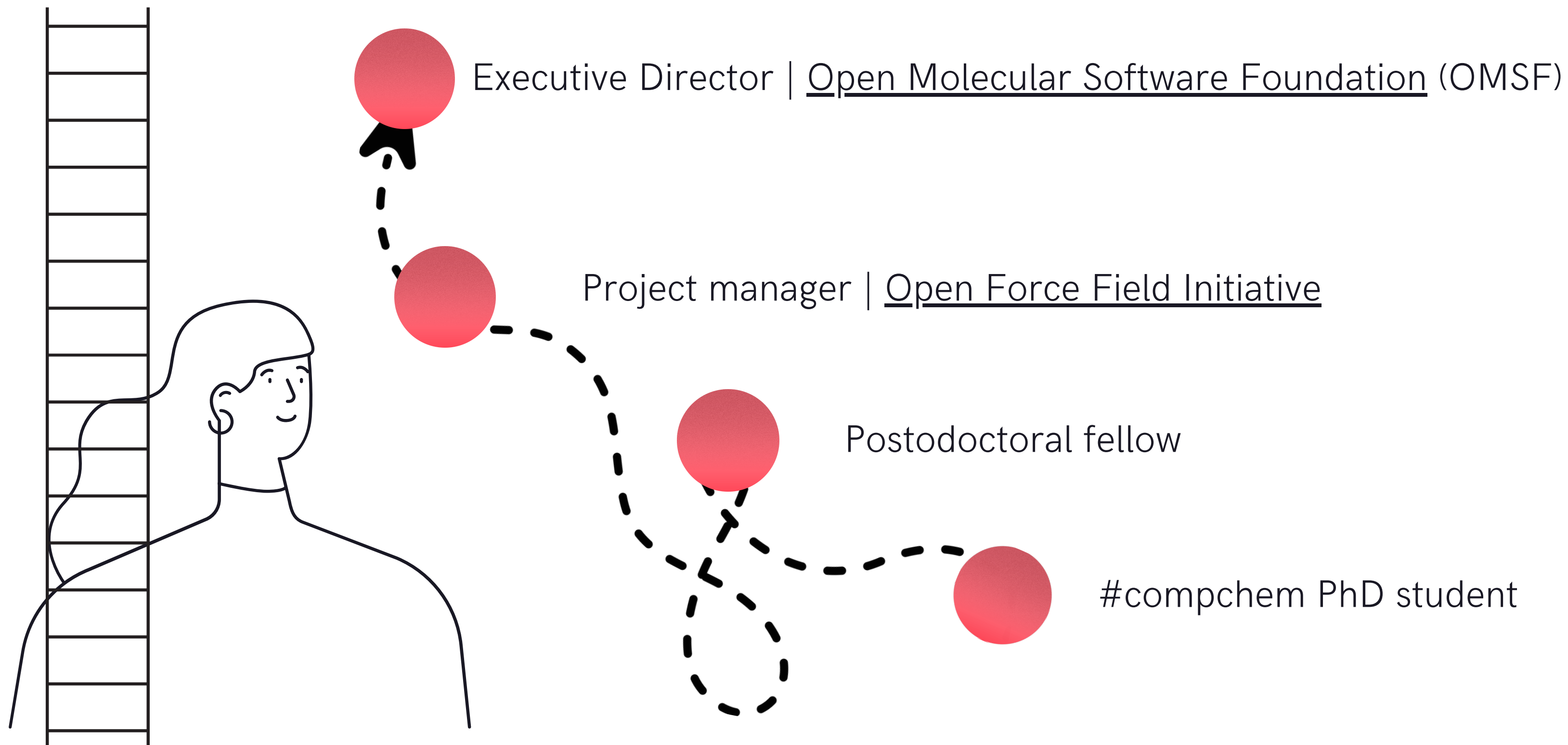


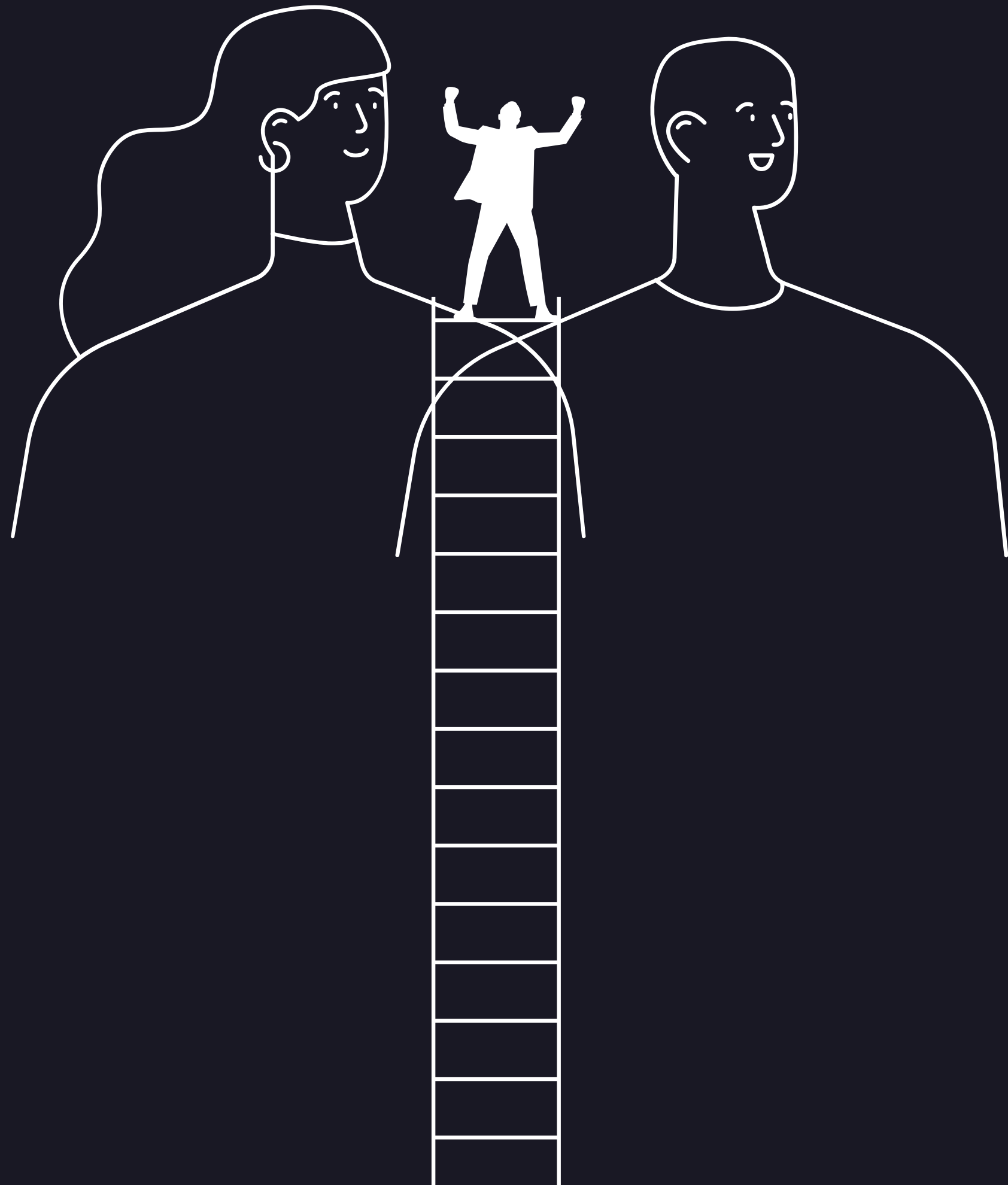
# On driving and being driven

CECAM WINTERSCHOOL 2022  
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# about me

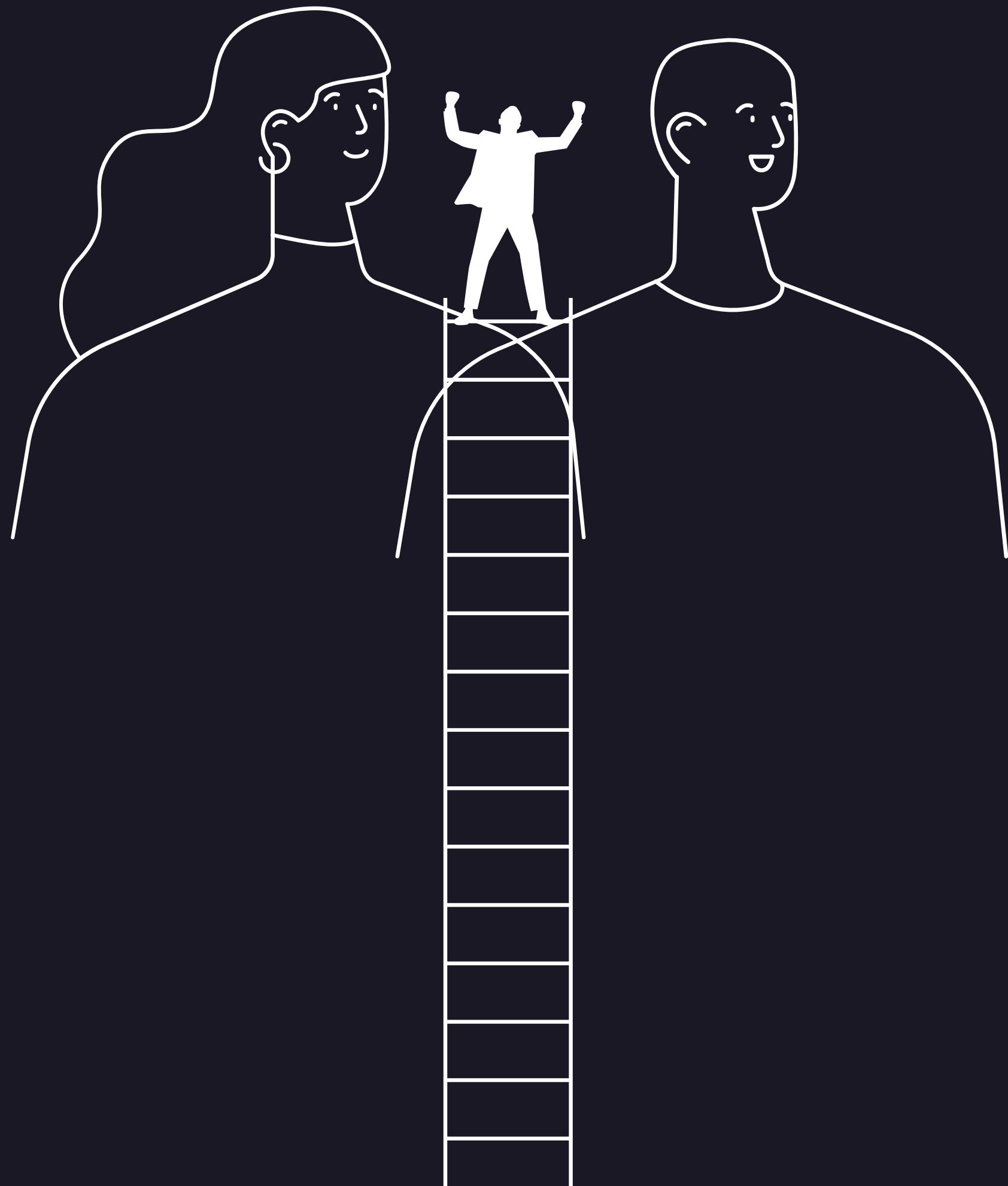




# open science

open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness).

openness allows us to “stand on the shoulders of giants” (or at least provides a ladder to those shoulders)



# open science

open means anyone can **easily** access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness).



# how to get there?



## research infrastructure

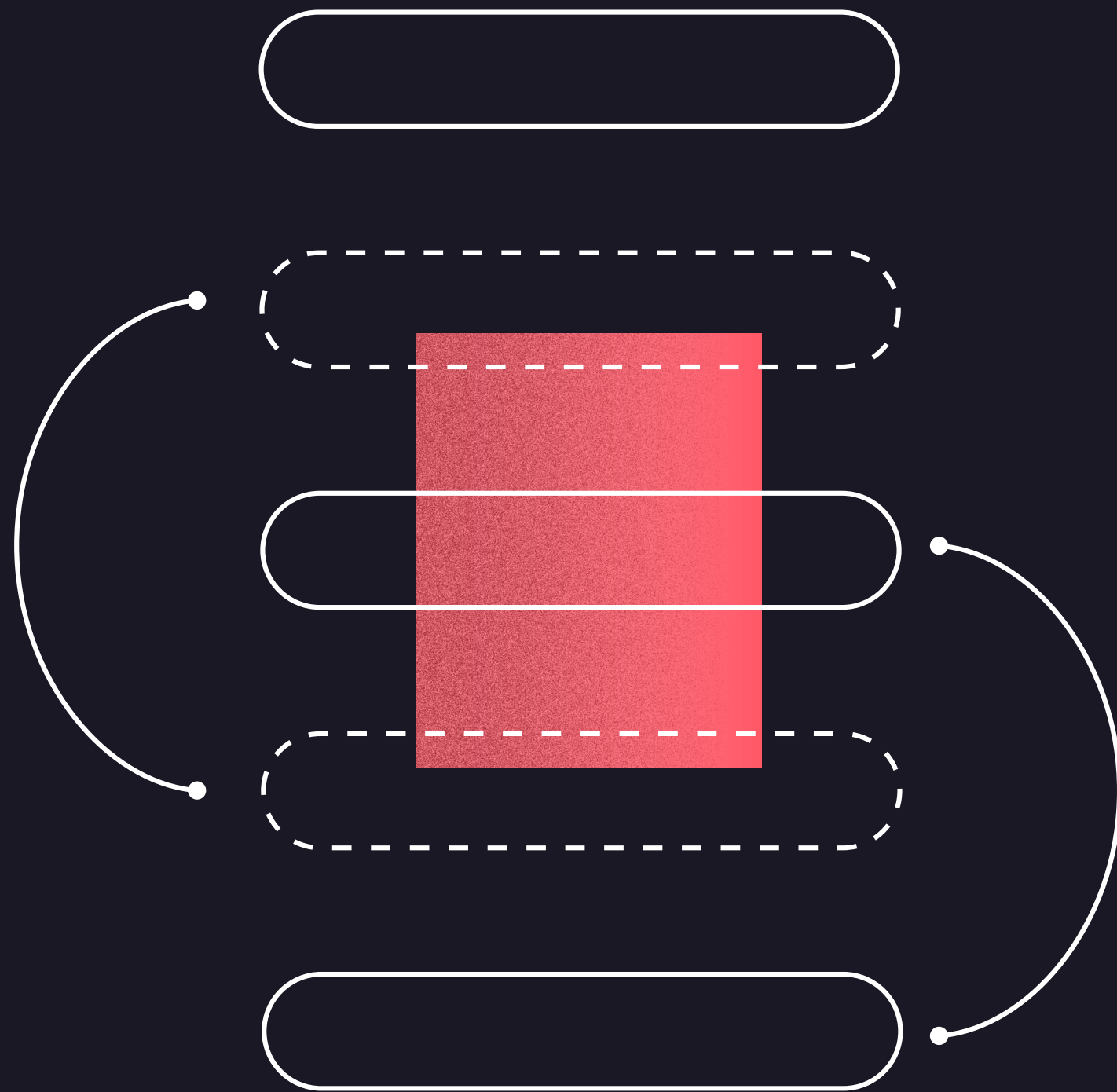
to share all our research output, make it  
findable, accessible, interoperable and  
(re)usable (FAIR)

FAIR=peer-reviewable at any time



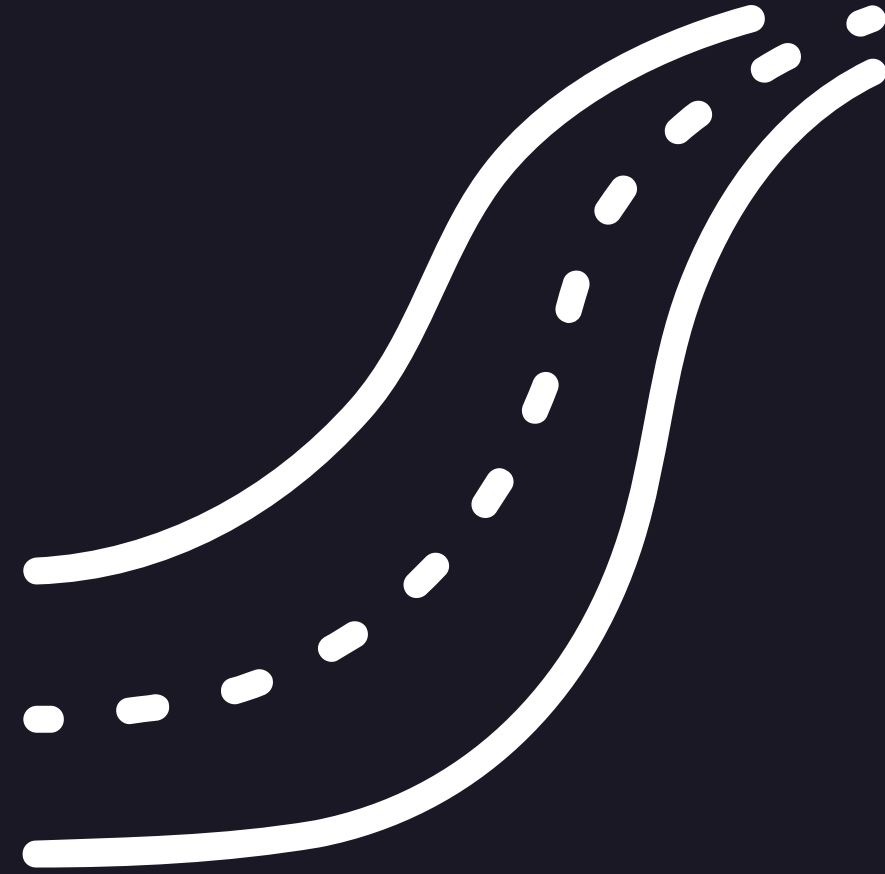
## project management

to effectively use our time, capabilities  
and infrastructure for global  
knowledge gain



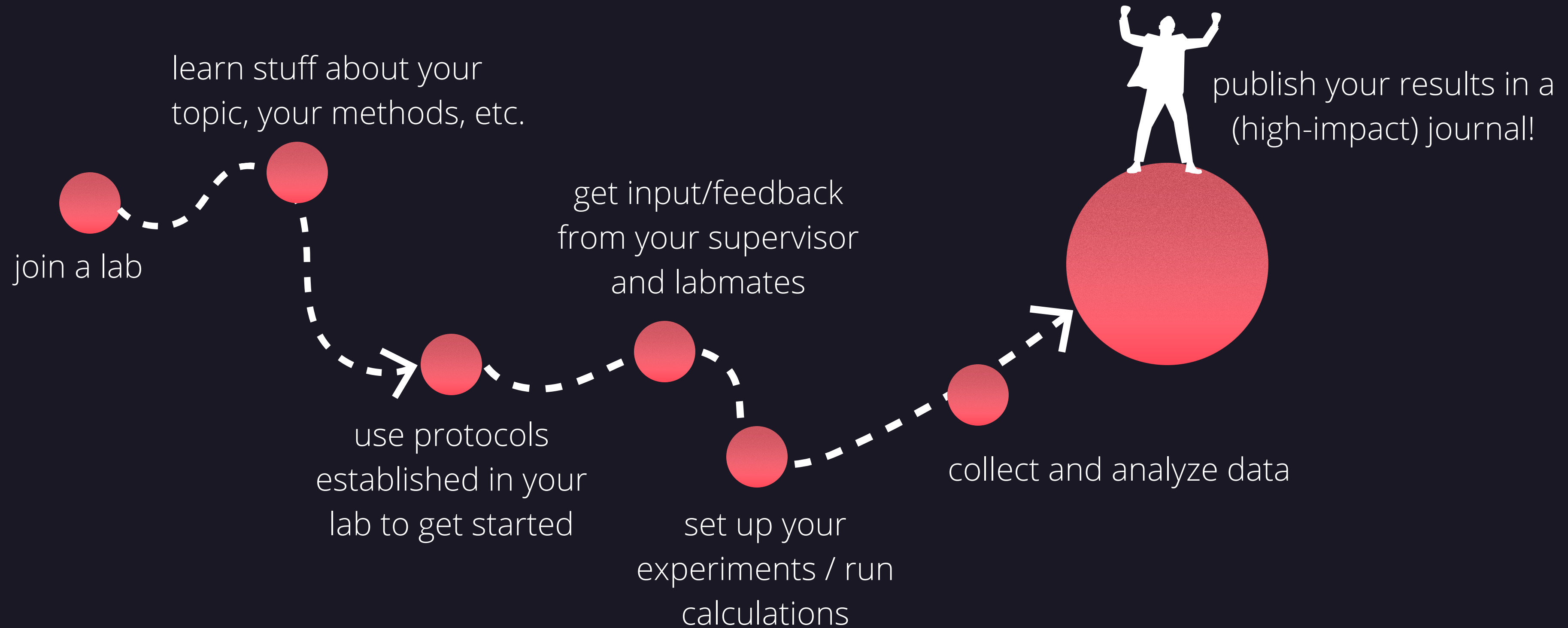
# how do we design, manage and improve processes we use in research?

from designing research studies, collecting and analyzing data, sharing results and creating valuable insights that can be passed on to the next generation of scientists



**let's examine a generic phd journey**

# a generic phd journey

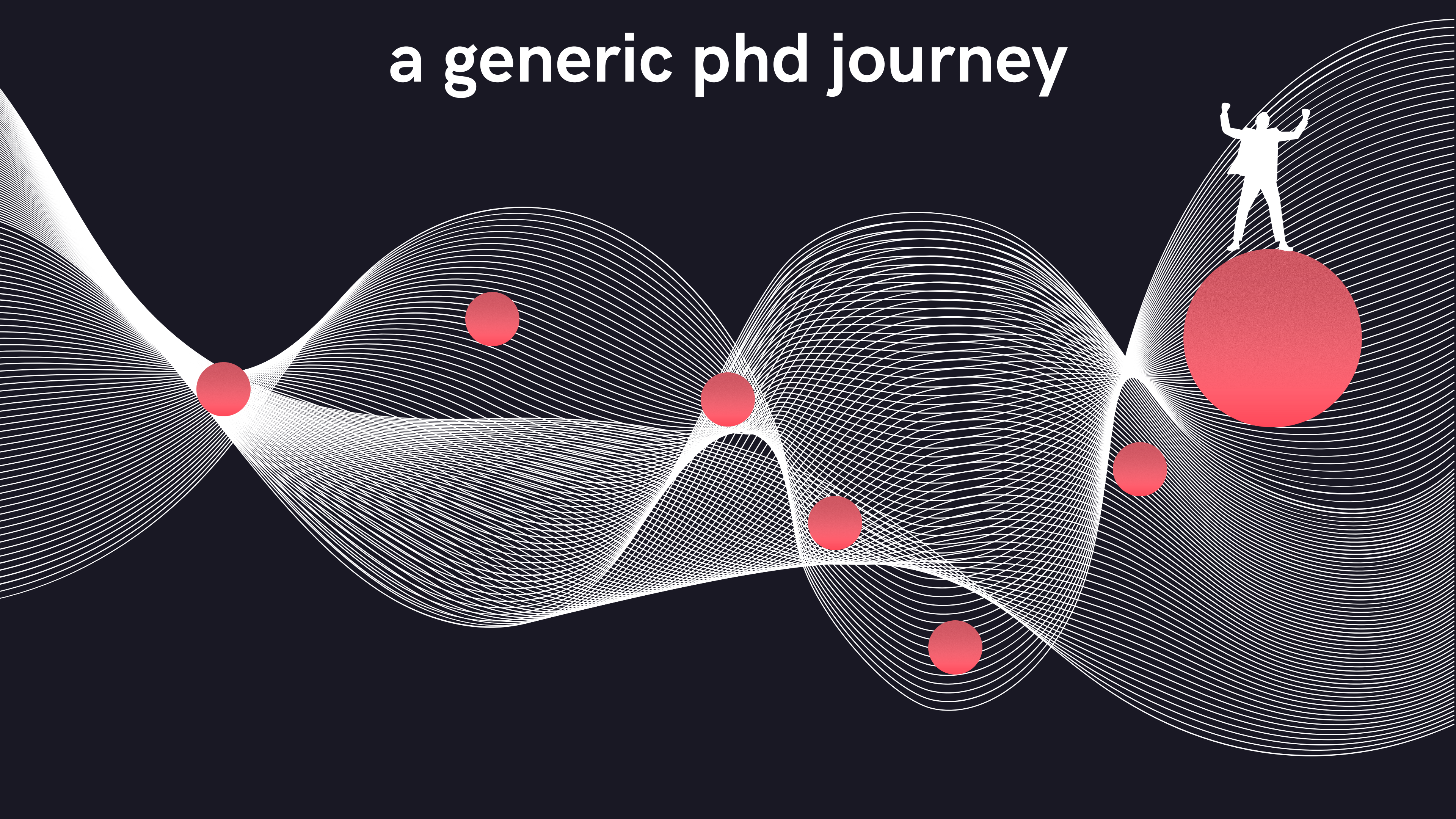




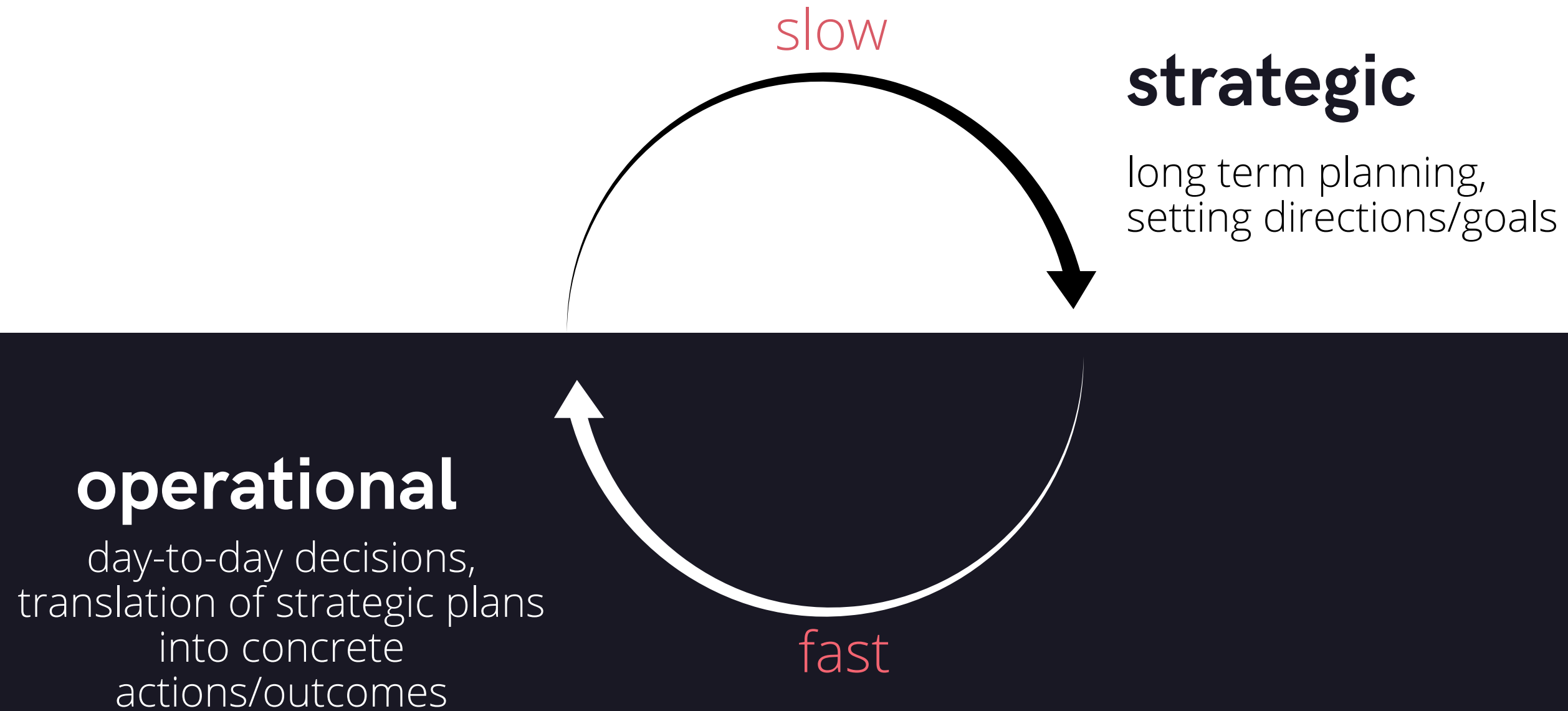
seeing the big picture



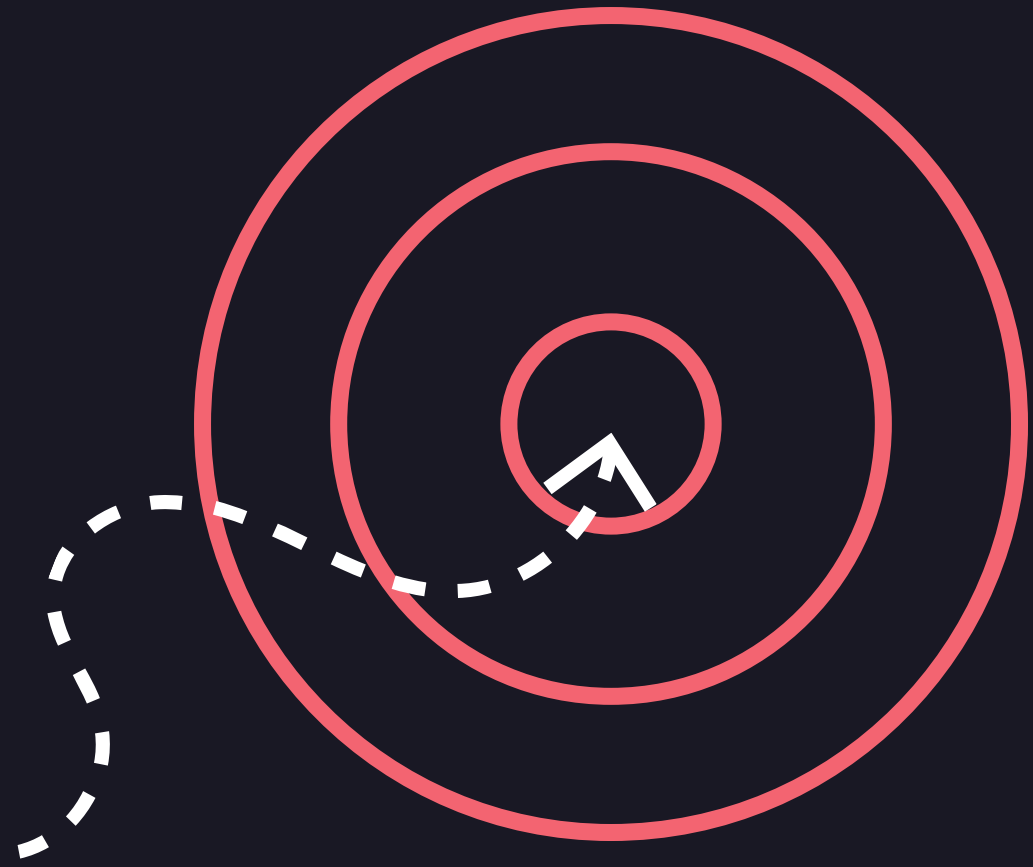
# a generic phd journey



# decision making



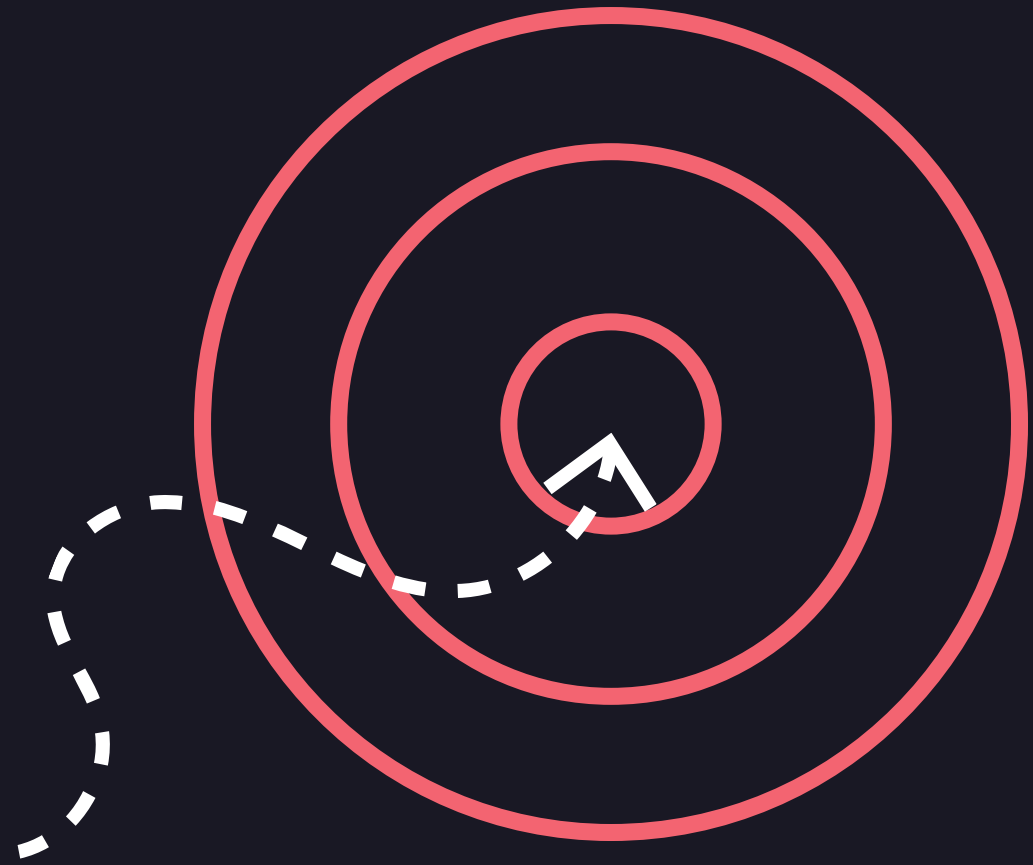




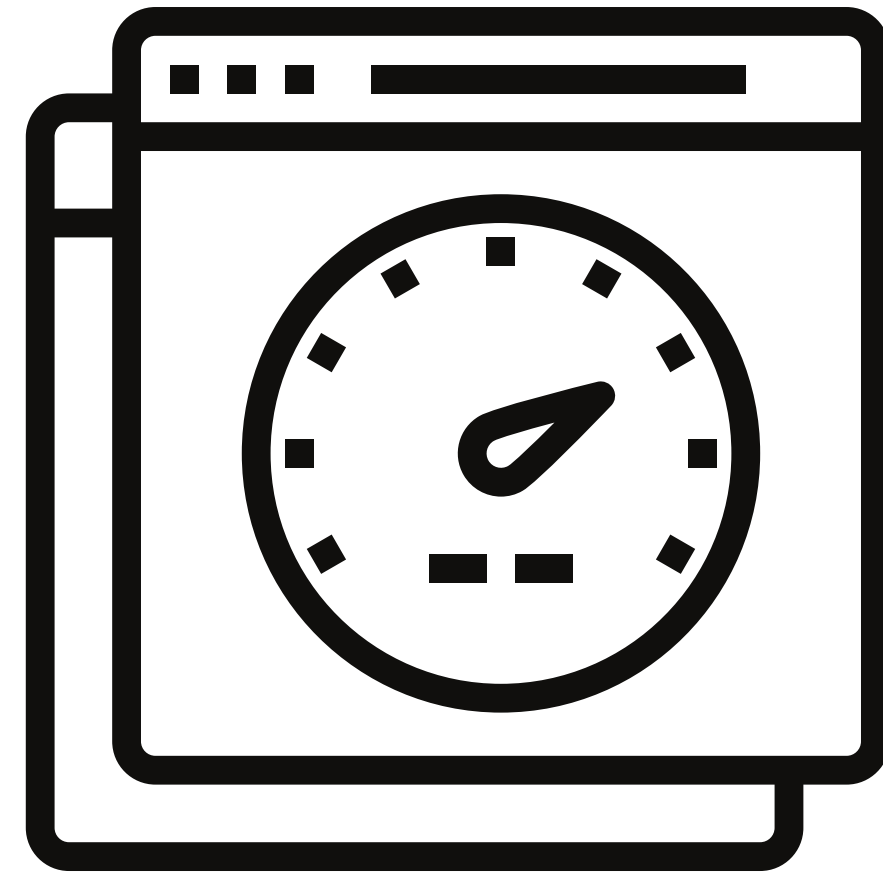
**how to define goals  
and find plausible  
paths to achieve them?**



**how to manage  
available time to make  
the most of it?**



**how to define goals  
and find plausible  
paths to achieve them?**



**how to manage  
available **bandwidth** to  
make the most of it?**



**take a break**





**find a path to your goals that works  
for you**

know your strengths and weaknesses and use them wisely



**science is a fuzzy and ambiguous  
discipline**

# challenges

## communication/decisions/priorities

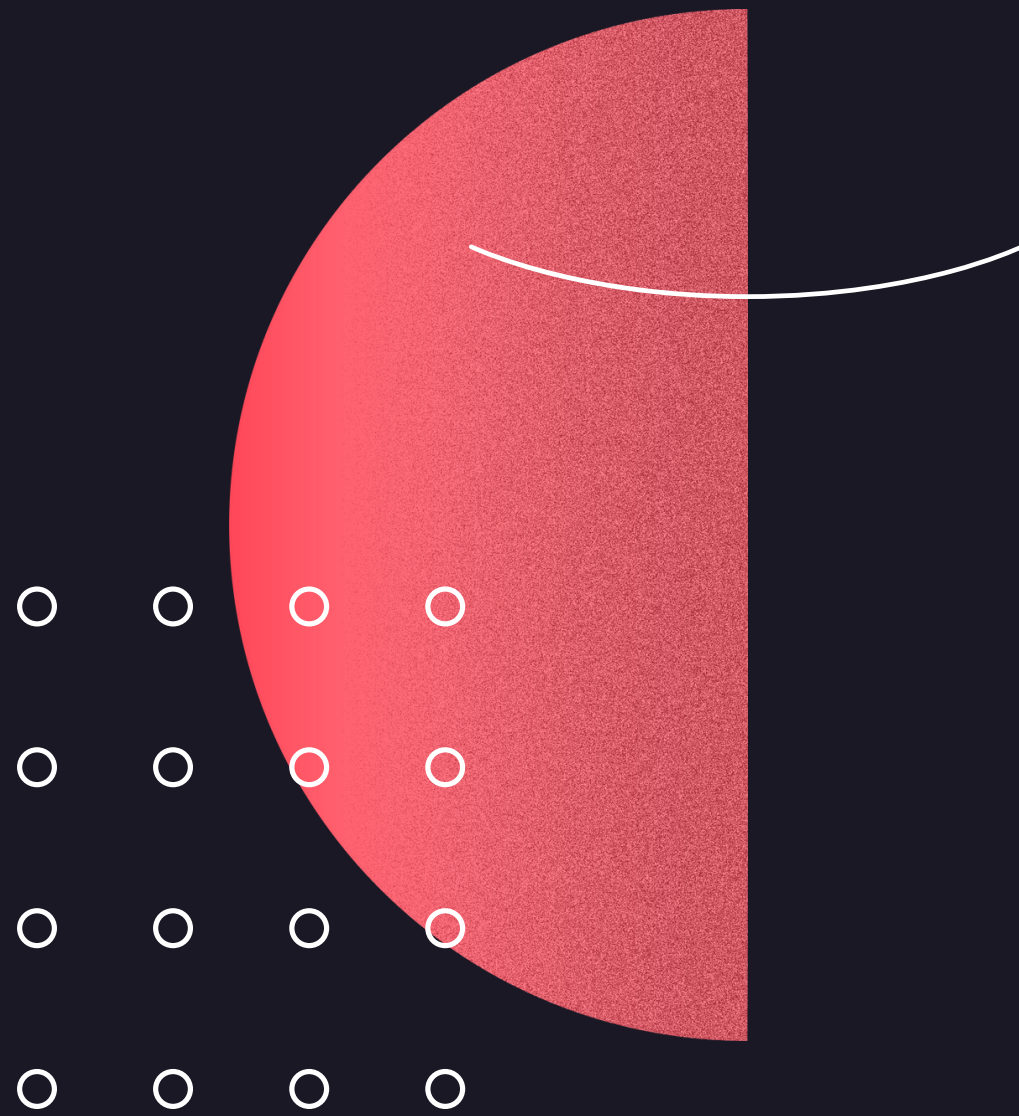
what decisions? who makes them? who executes? when? why? do they even know?

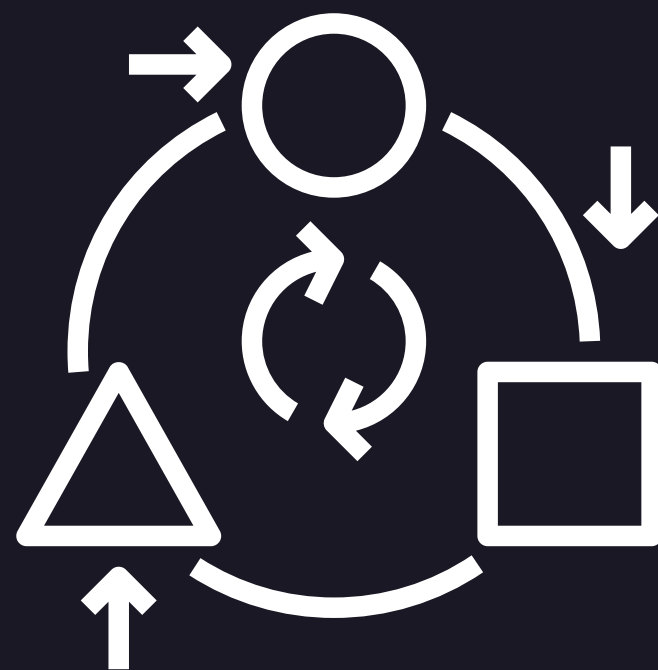
## scope creep

"it would be good to...", "we should do X, but also Y and Z..."

## defaulting to known processes

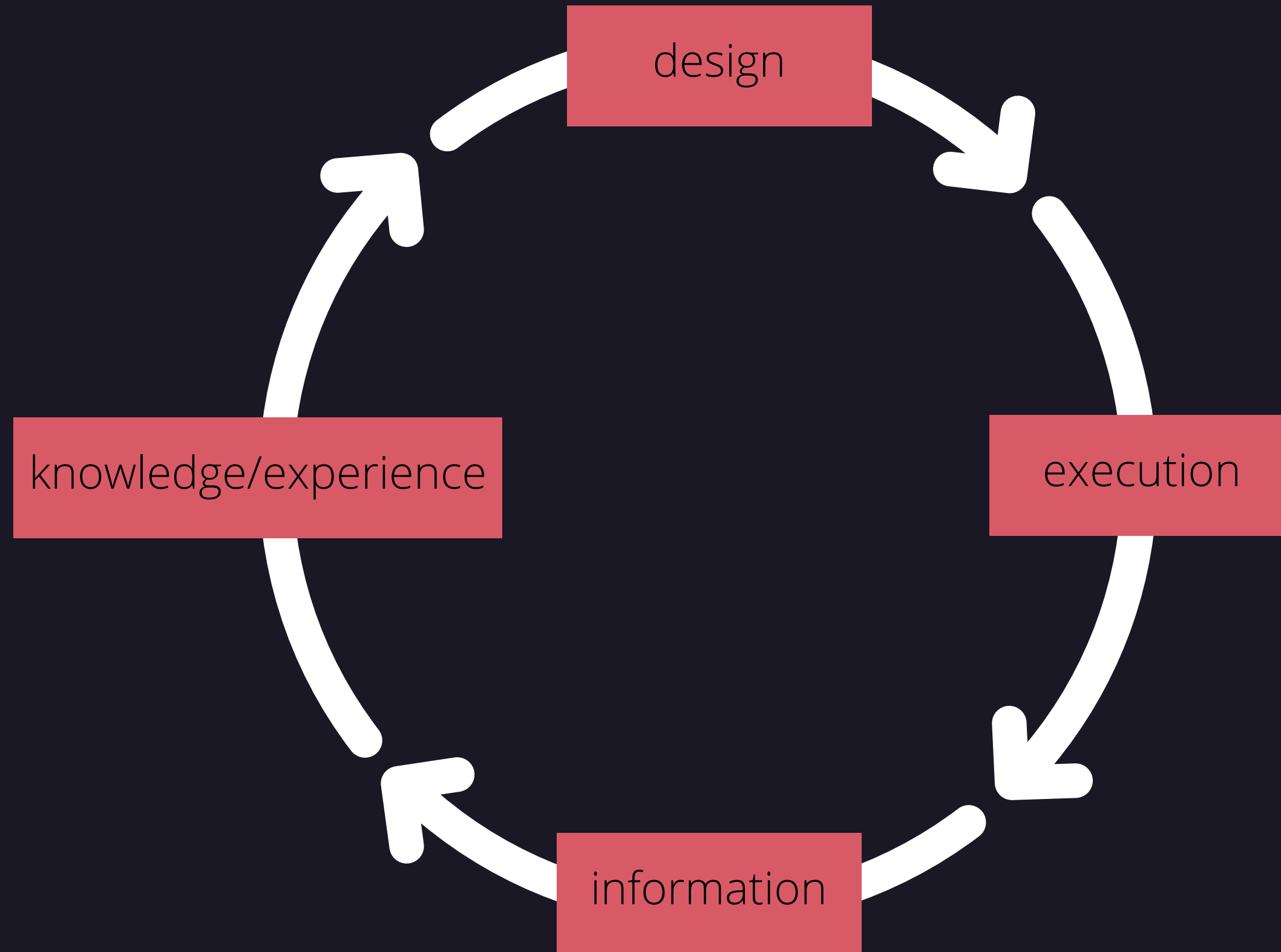
unknowns are uncomfortable and any change is hard






**adaptability**

# iterative approach to project design



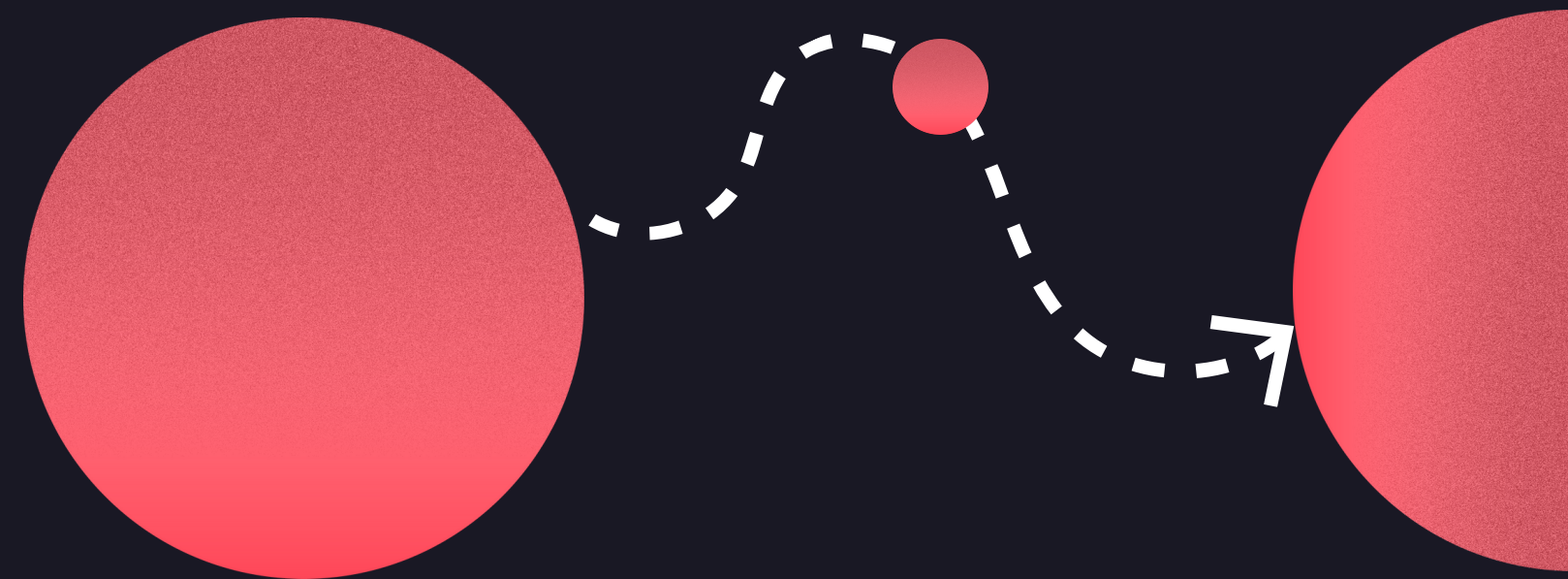


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**In preparing for battle I have  
always found that plans are  
useless, but planning is  
indispensable.**

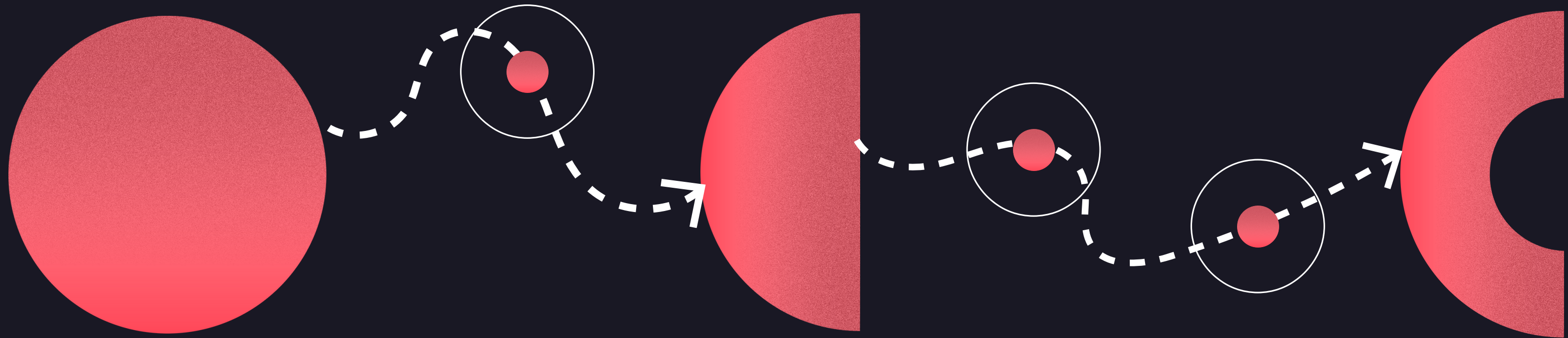
Dwight Eisenhower

# the classical elements of a project design



what | why | how | who | when

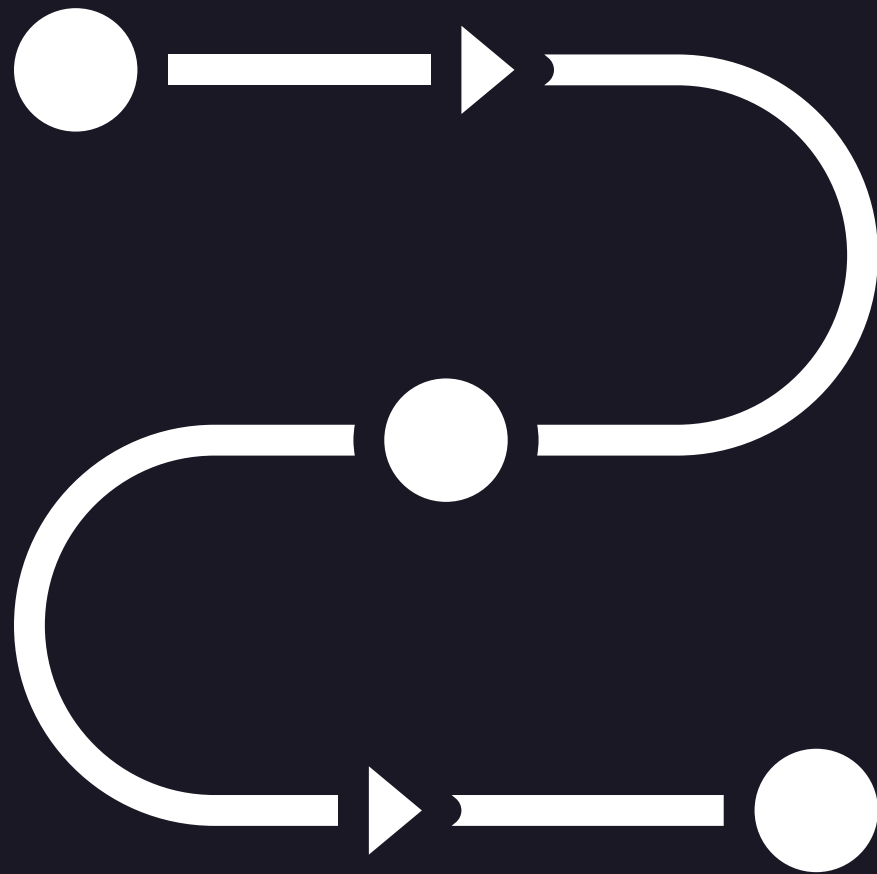
# motivation



milestones and well-defined end points can provide sense of progress and achievement!

there's always more to do...

# milestones



make your milestones meaningful -- something that makes sense for your project and something that you can achieve in a reasonable amount of time

buy yourself a cake when you hit it, but don't go overboard -- you still have soooo much to do!



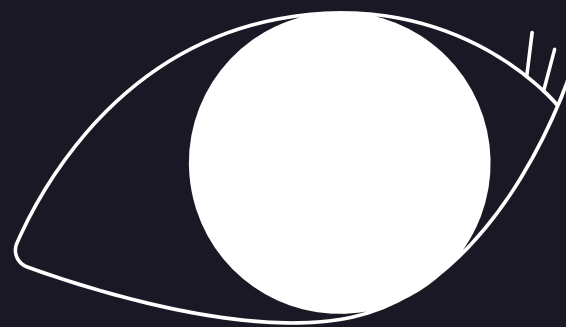
**how to switch from being driven to  
being a driver?**





## **be deliberate**

actively design and review your processes



## **observe & assess**

not every decision results in an immediate and obvious outcome -- optimize your decision making processes for better outcomes

**REPEAT!**

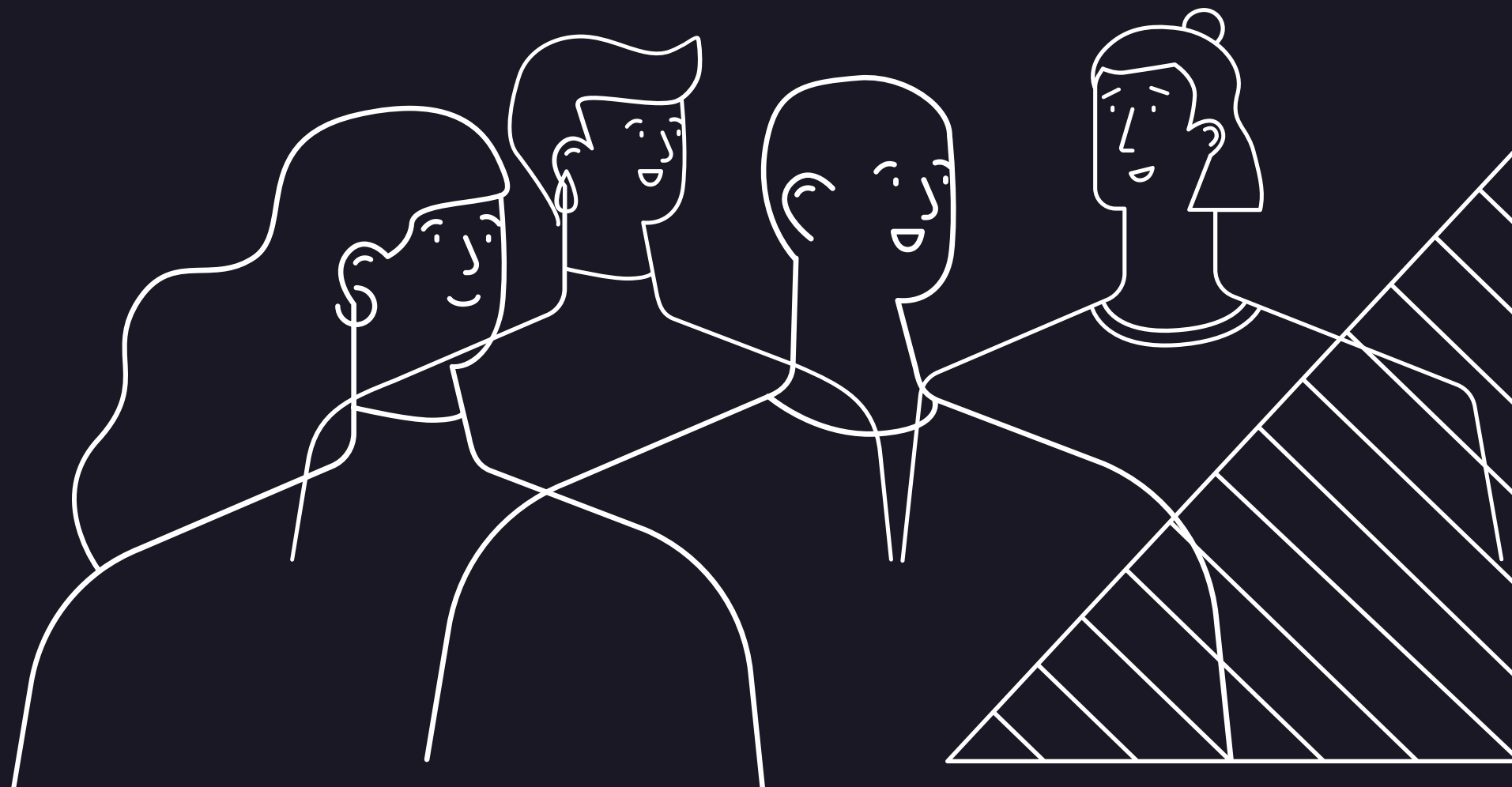
# the end of the project

be prepared to:

- make your findings public (can you retrace your steps?)
- tidy up loose ends
- spend some time to make it presentable even though you're kinda over it
- potentially have a bag of mixed feelings -- sometimes you will realize what you've achieved much later
- to move on (and hand it over to someone else, if needed)



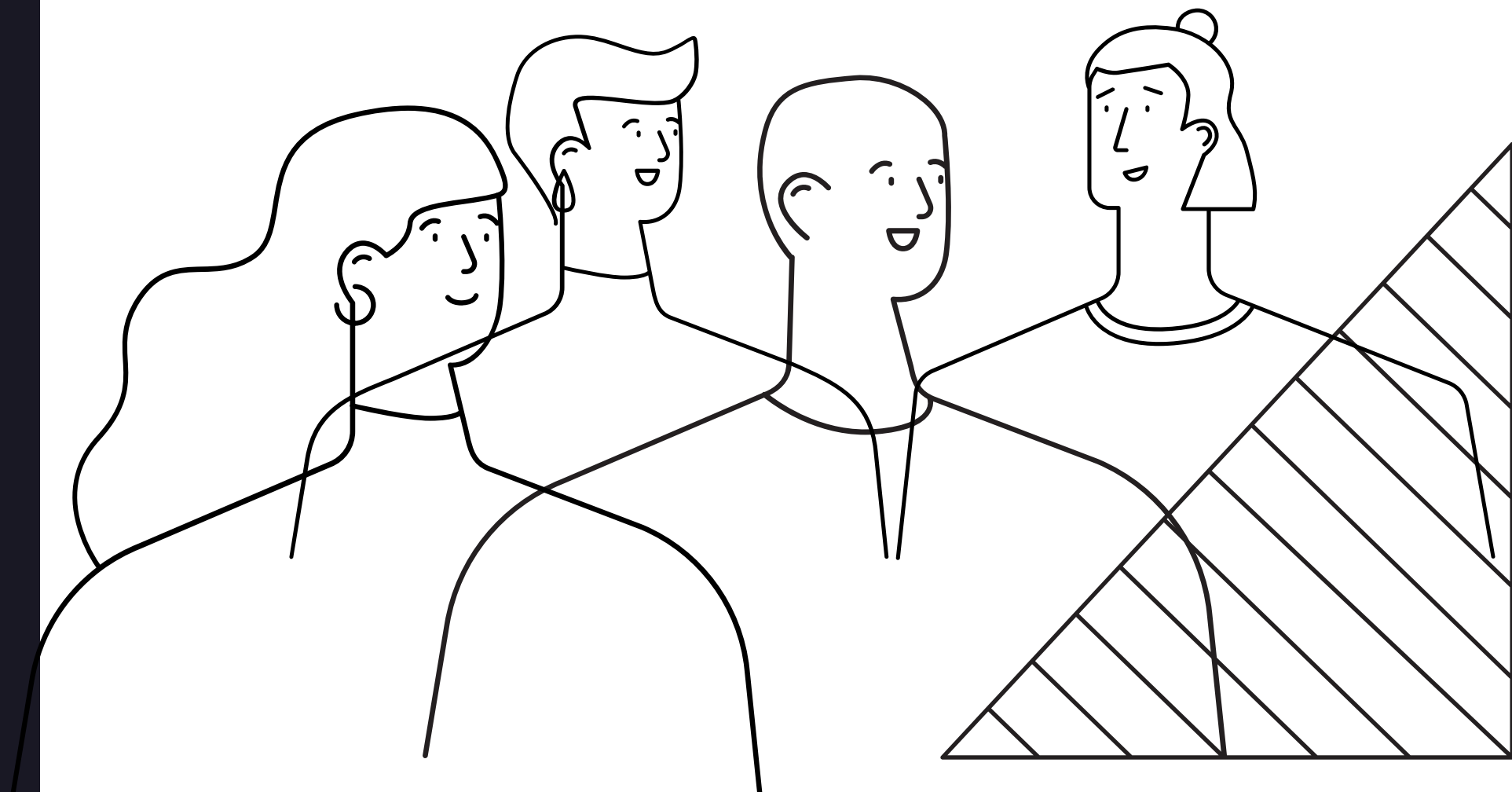
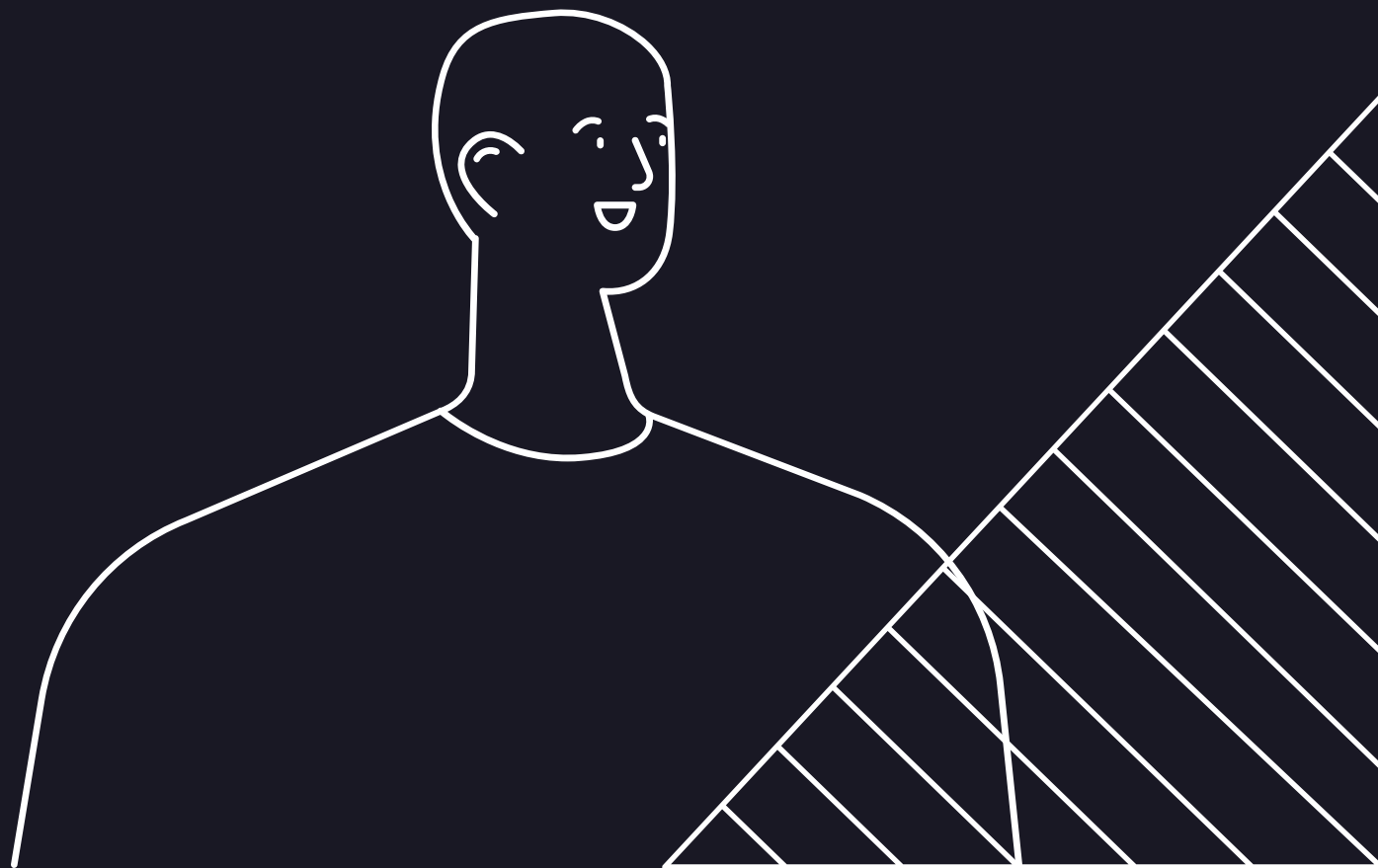
**what if your project is a part of a  
larger collaboration?**



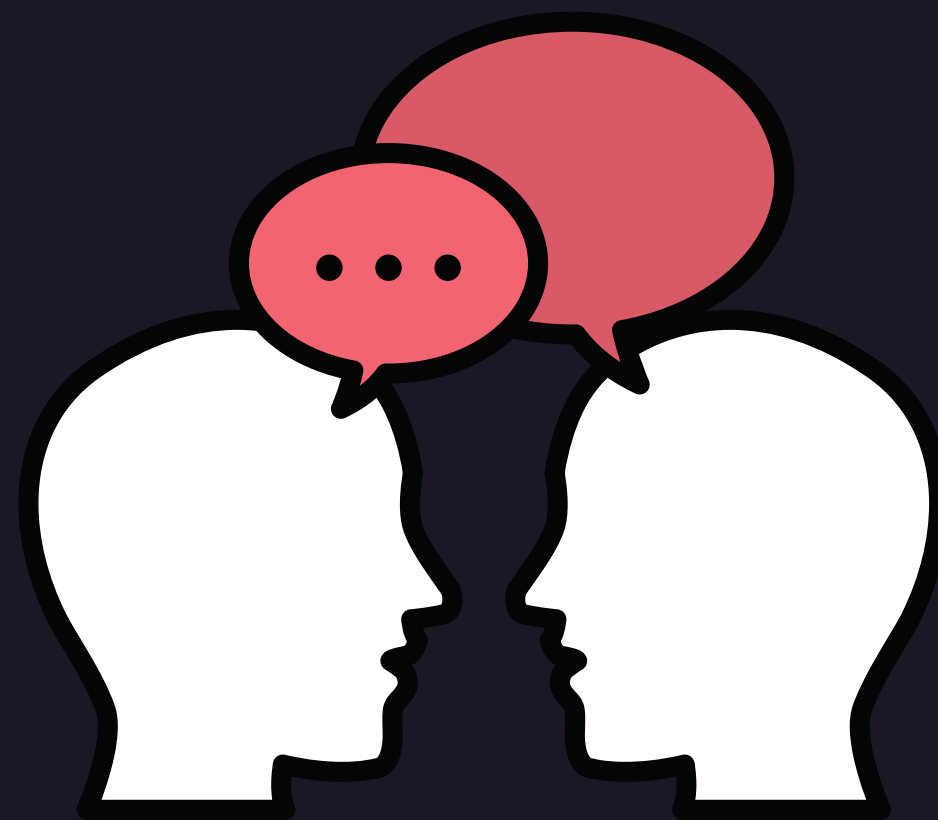
**single person  
project**

**vs**

**collaborative  
project**  
complex



**effective communication is the  
greatest challenge for any  
collaboration**



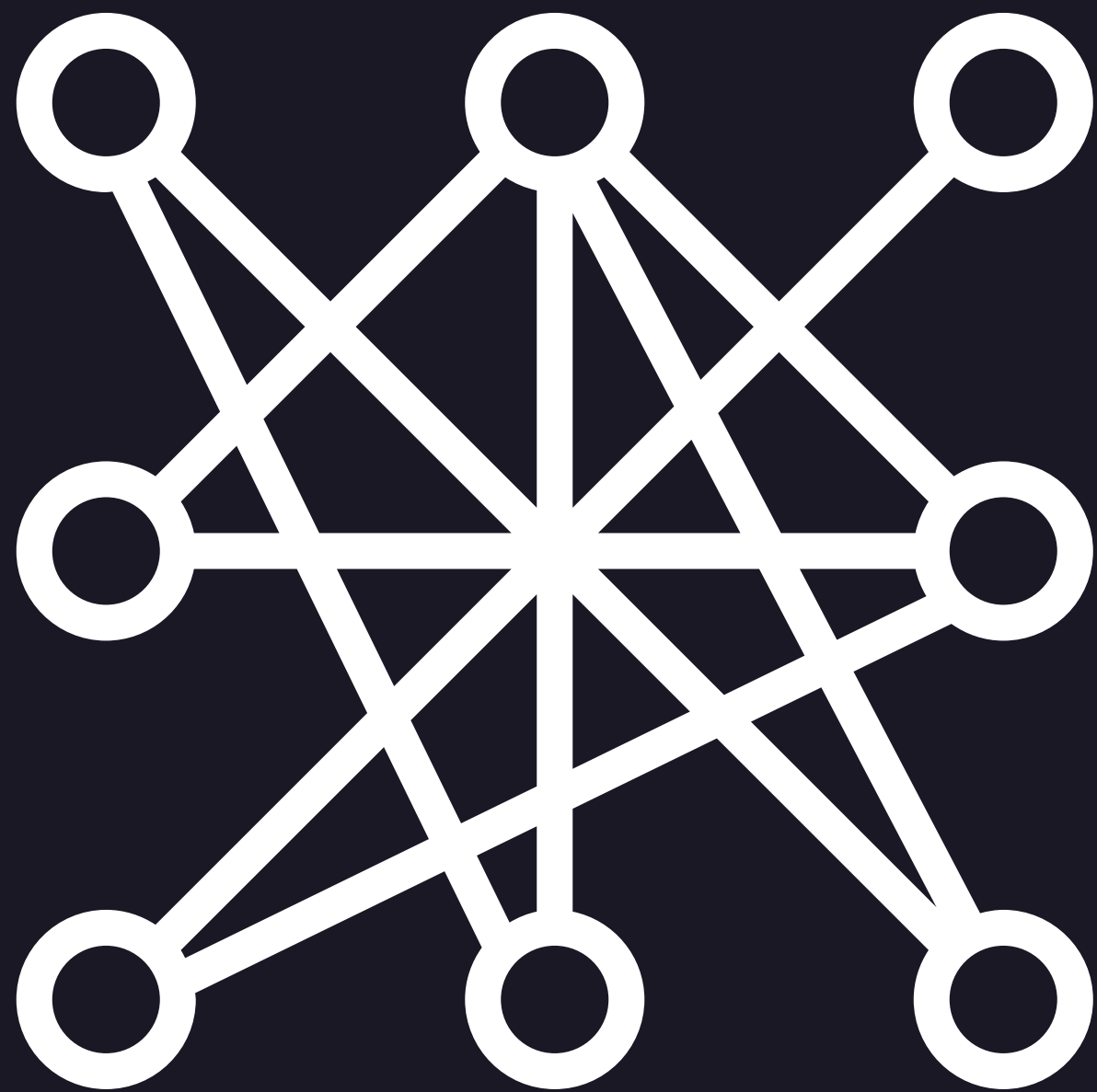




# coordination overhead

the cost of coordination is often overlooked because everyone wants to do cool science, but not so much manage it

a lot of meetings!



# time overhead for distributed and asynchronous teams

communication is harder and a team has a different dynamic than it might in meatspace

a lot of writing needed (meeting notes, project plans, etc)

good calendar management skills due if one needs to deal with different time zones

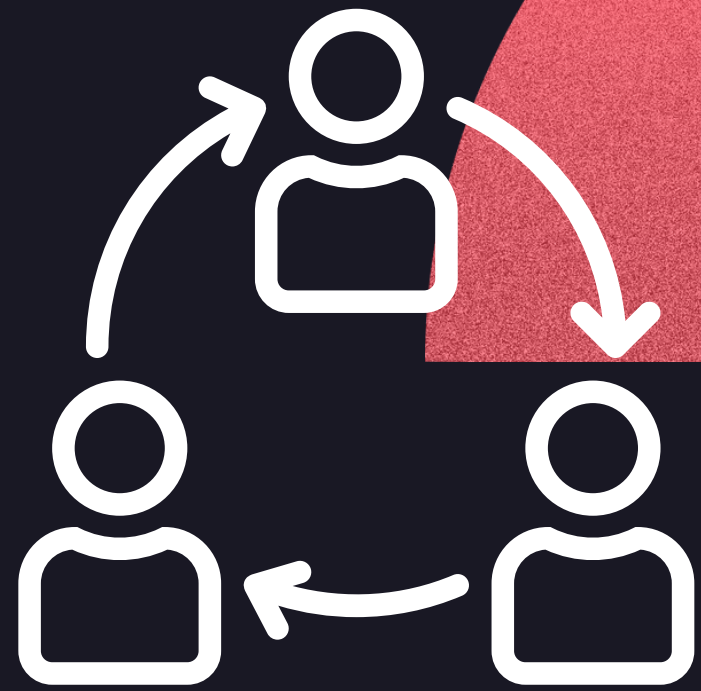
only have meetings when there is an agenda and decision making requirements

take detailed notes and have someone recapitulate the main message/decision of the meeting to make sure everyone is on the same page

do not book a whole hour if the meeting can be done in a shorter amount of time / avoid long online meetings.

# meetings





**making decisions as  
a group**



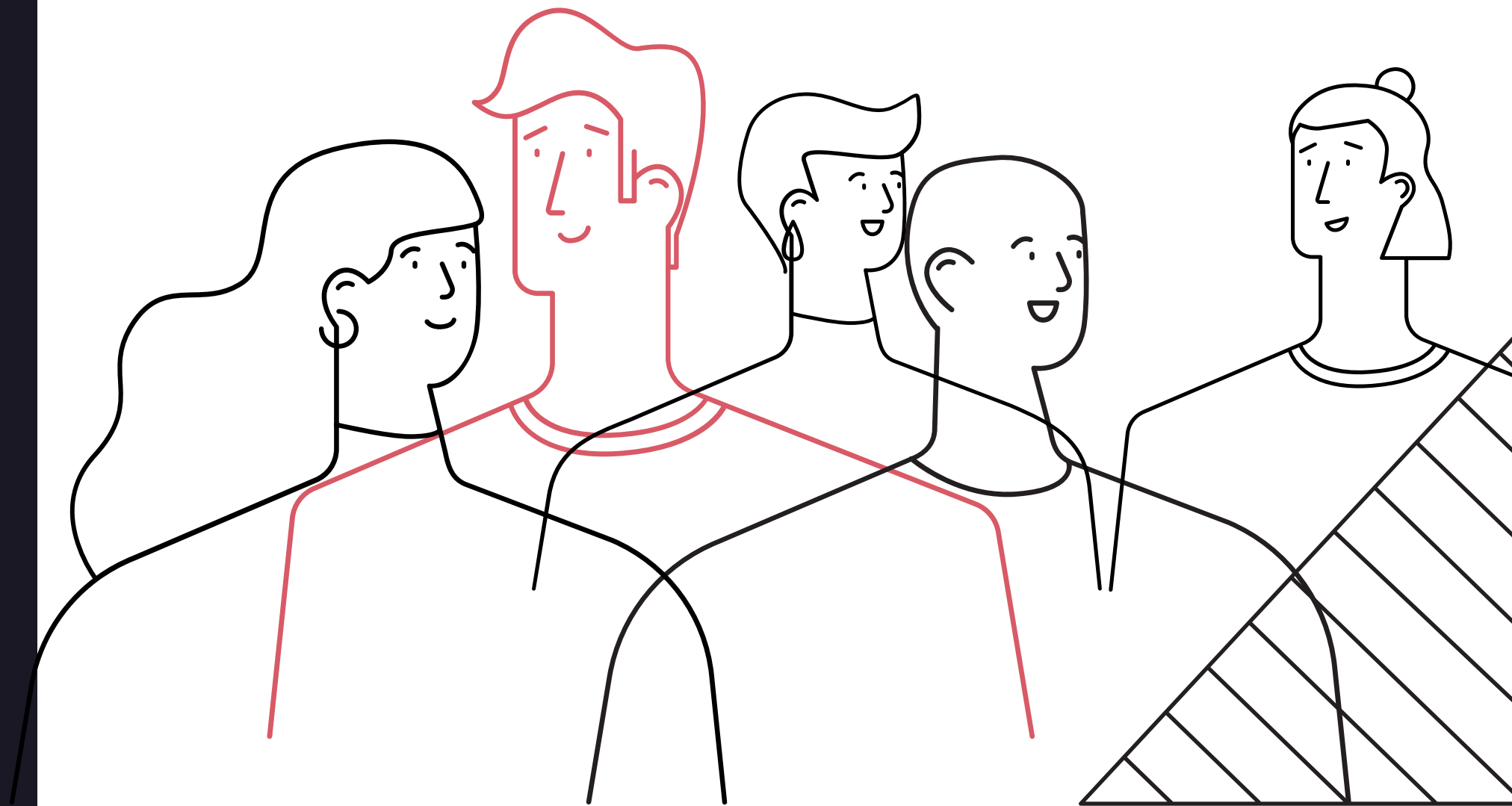
**prioritizing specific  
project goals/outcomes**




groups often have many **stakeholders** -- people who are interested in the strategic decisions and project outcomes, but who are not interested in leading the effort and making operational decisions

**project driver** -- someone who will take responsibility for day-to-day decisions and keep all stakeholders informed about progress made or seek advice about strategic goals when needed (absolutely needed!)

# group politics



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**In preparing for battle I have  
always found that plans are  
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Dwight Eisenhower





# map is not the territory

and if you want to drive, you better get a good roadmap!

# advice to myself I wish I'd take

## **WRITE**

write as much as you can, from taking notes to describing your thoughts, processes, musings, etc -- get your personal website up or choose a platform (Medium, Substack, LinkedIn, Twitter, whatever) or keep it as a private journal, but do it for your future self.

## **ASK FOR HELP**

ask for help when you get stuck -- you are less likely to run in circles if you do and if you can verbalize your problem, you are probably already half way closer to the solution -- people are generally willing to help -- jump online if you can't get help in your lab

## **NETWORK**

online/offline -- cold email -- be genuine and who knows what door might open for you

make a plan  
discard it for a better one  
repeat

**bon voyage!**

