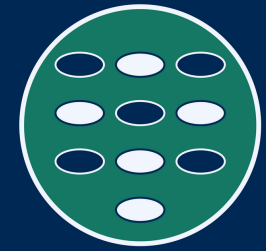




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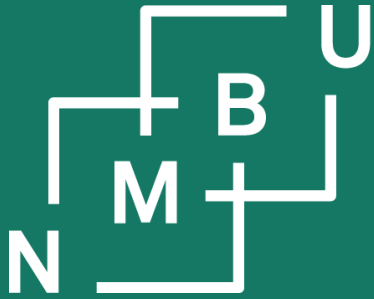
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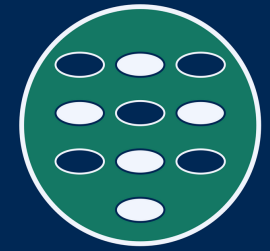
4 Research ethics and impact

4.4 Master thesis impact and ethics: Brief remarks



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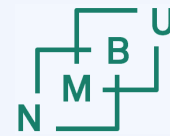
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4 Ethics and impact

4.4 Master work ethics/impact



Impact: Practical recommendation

Write up a list of two or three main positive consequences that your work will have in the long run. Refine/rewrite it as you get to understand the big picture, over time, through your work and discussions with advisors and other scholars.

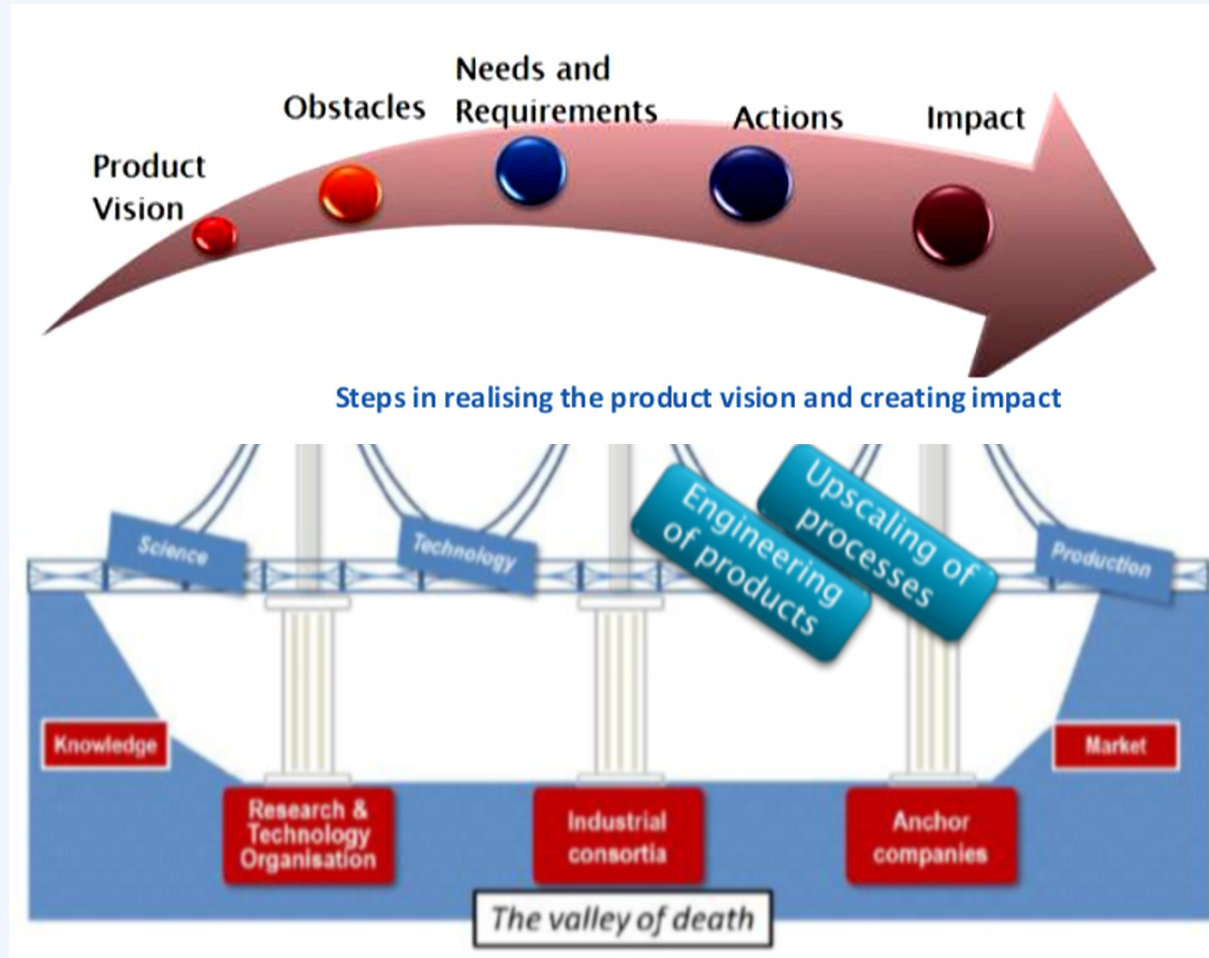
- Don't wait, best create this list of key impacts immediately.
- Do your short-term work such that it enables the long-term key impacts.

Think ahead in terms of licensing; *e.g.*, if you want proprietary software to be created as derivative work, you cannot use a copyleft license such as the GPL.

Also think of your own role in the process further ahead. The active work likely must be handed over to another person. Has that person been identified?

Master theses are rarely read. If you think of academic impact, include writing an indexed journal or conference paper as a task in your work plan.

Impact: The valley of death



Technology uptake

First, nerds talk of it.

Then, maybe, decision makers talk of it.

Then everybody starts talking of it.

Finally, even decision makers understand it.

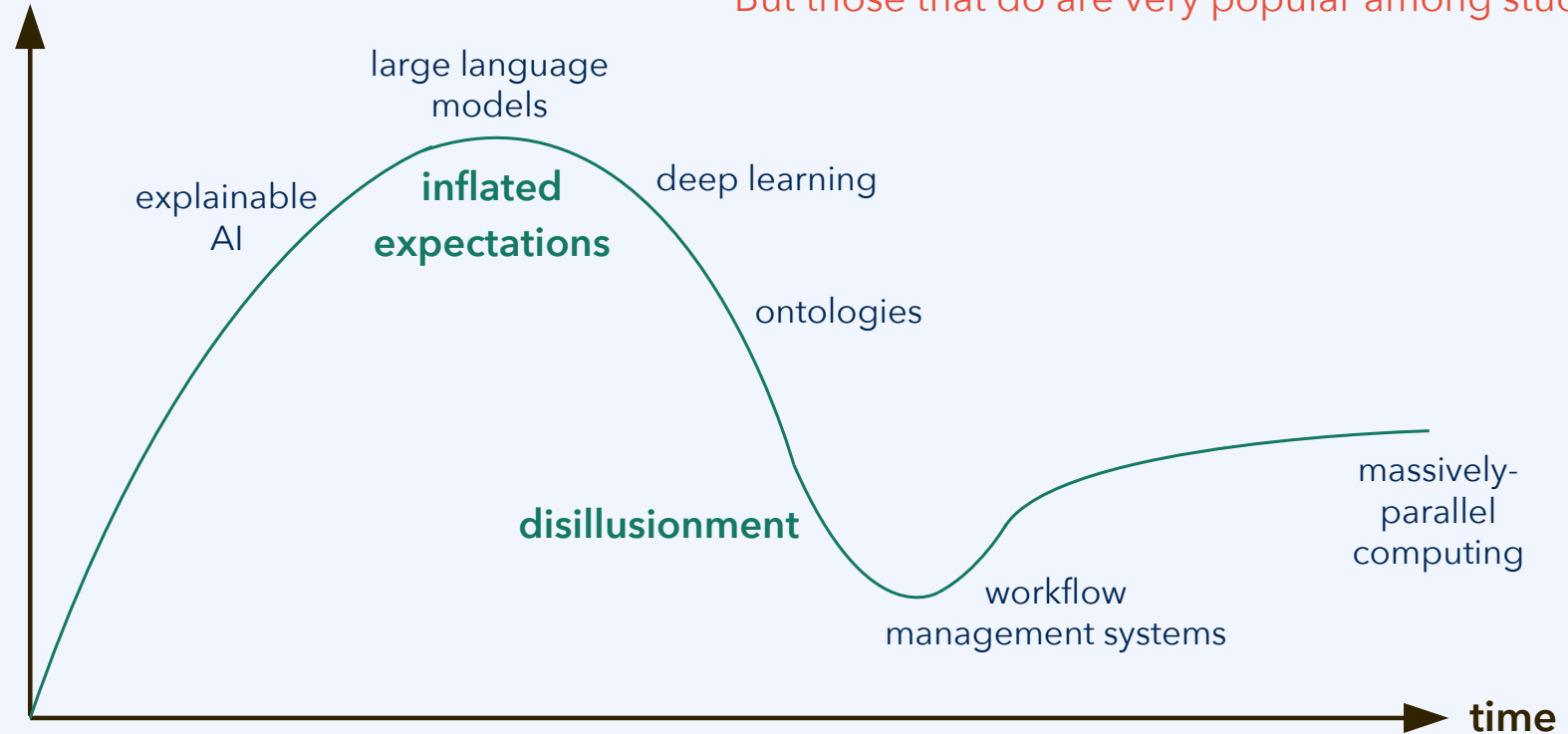
Figures from Fantechi *et al.*, *Towards a Roadmap for Engineering & Upscaling*, technical report, **2015**.

Impact: The hype cycle

Gartner hype cycle (see also Gartner Inc. website)

Most technologies do not go through this cycle!
But those that do are very popular among students.

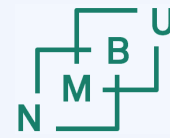
expectations



Categories of research ethics issues

List of ethics issues applicable to Horizon Europe research:

- 1) Human embryos and human embryonic stem cells
- 2) Humans (“Does this activity involve human participants?”)
→ Special case: Clinical trials as defined by Regulation EU 536/2014
- 3) Human cells and tissues
→ Beyond embryonic cells/tissues which are covered under issue *no. 1*
- 4) Processing of personal data
- 5) Animals (“Does this activity involve animals?”), *cf.* NMBU’s guidelines, *p. 13f.*
- 6) Activities carried out in other countries (for Horizon Europe: Outside the EU)
- 7) Environment, health, and safety
- 8) Artificial Intelligence



Who is responsible?

Who needs to ensure compliance with research ethics guidelines, principles, and good practices in a master thesis research project?

Who is responsible if this fails and unethical practices have been followed?

- The person immediately carrying out the research?
(That is, in this case, the master student.)
- The supervisors?
(Here, that is particularly the main supervisor of the master thesis.)
- The institution?
(Forskningsutvalg, forskningsetisk utvalg, prorektor for research, etc.)

What does the law say?

Who is responsible?

- The person immediately carrying out the research?
The researcher always has the primary responsibility.
- The supervisors?
*Should usually also be involved as researchers.
Additionally, they are a link between the researcher and the institution.*
- The institution?
«Forskningsinstitusjoner skal sikre at forskningen ved institusjonen skjer i henhold til anerkjente forskningsetiske normer. Institusjonen har ansvaret for:
 - a. nødvendig opplæring av kandidater og ansatte i anerkjente forskningsetiske normer og
 - b. at alle som utfører eller deltar i forskningen, er kjent med anerkjente forskningsetiske normer.» (Forskningsetikkloven §5)

FEK on research integrity



Project RINO: Research Integrity in Norway¹ (2018)

The RINO project was carried out by *Dei nasjonale forskningsetiske komiteane (FEK)* in collaboration with UiB and HVL. It was centered on research integrity as the opposite of “forgery, fabrication, and plagiarism” (FFP).

Plagiarism is defined in this project by: **“Å fremstille andres arbeid (ideer, materiale, tekst) som sitt eget ved å utelate henvisning til opphavskilden”**.¹

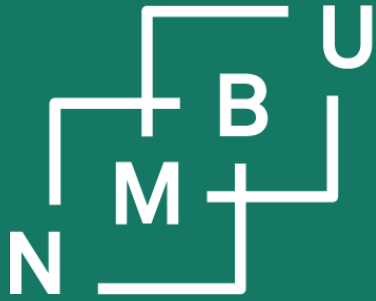
Their report¹ finds that 98.5% of Norwegian research institutions’ employees regard plagiarism, as defined above, as “very problematic” or “quite problematic.”

Research ethics guidelines for natural science and technology² (2015)

These guidelines,² developed by the NENT committee (part of FEK), assert: **«Å plagiere innebærer å framstille andres ideer eller forskning som sitt eget.»**

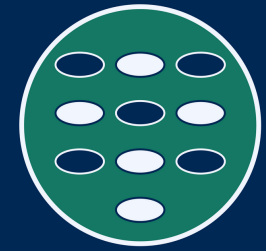
¹J. Hjellbrekke et al., *Etikk og integritet i forskning: Resultater fra en landsomfattende undersøkelse*, 2018.

²NENT, *Forskningsetiske retningslinjer for naturvitenskap og teknologi*, FEK, 2015.



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