

Platform for Research  
and Applications  
with Electrons



# Status Overview Radiation Protection

Jean-Michel HORODYNSKI - iRSD

Le 08/10/2018



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with Electrons



Projet Emblématique

île de France

Programme SESAME



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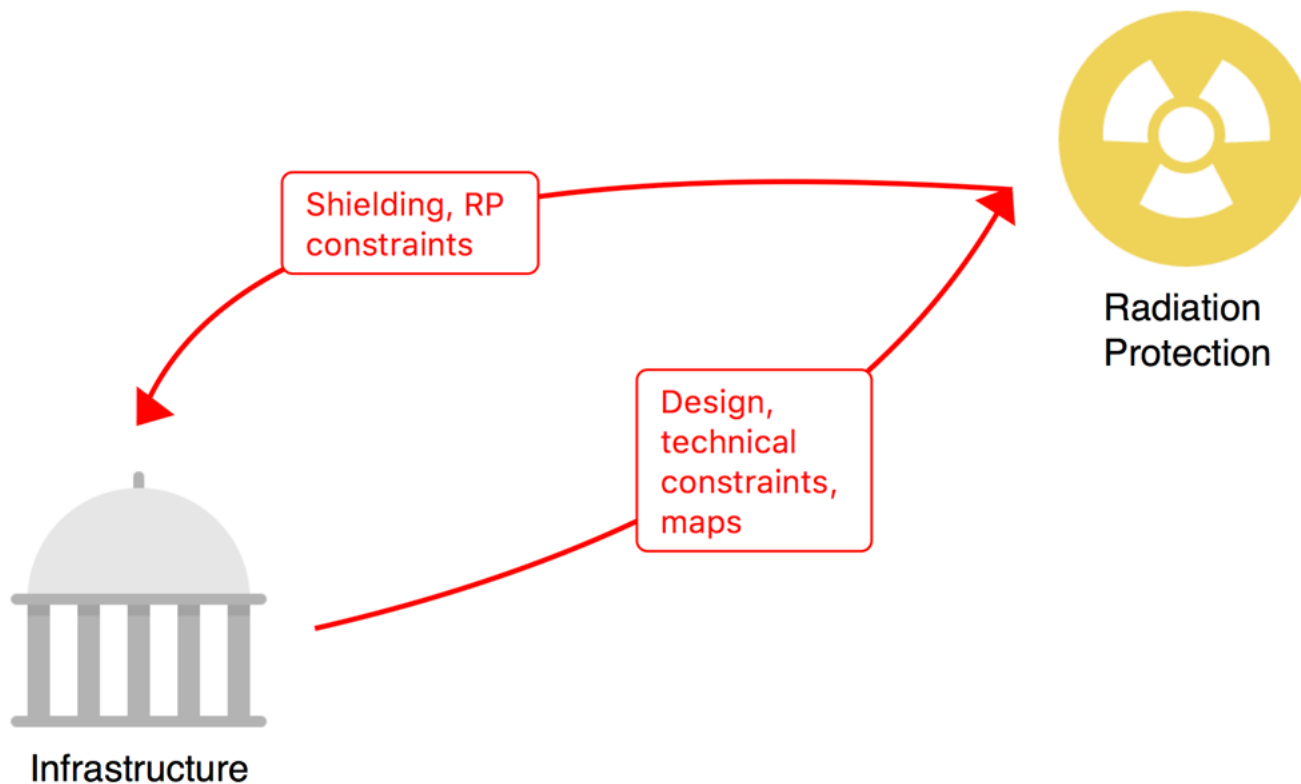
With the support of



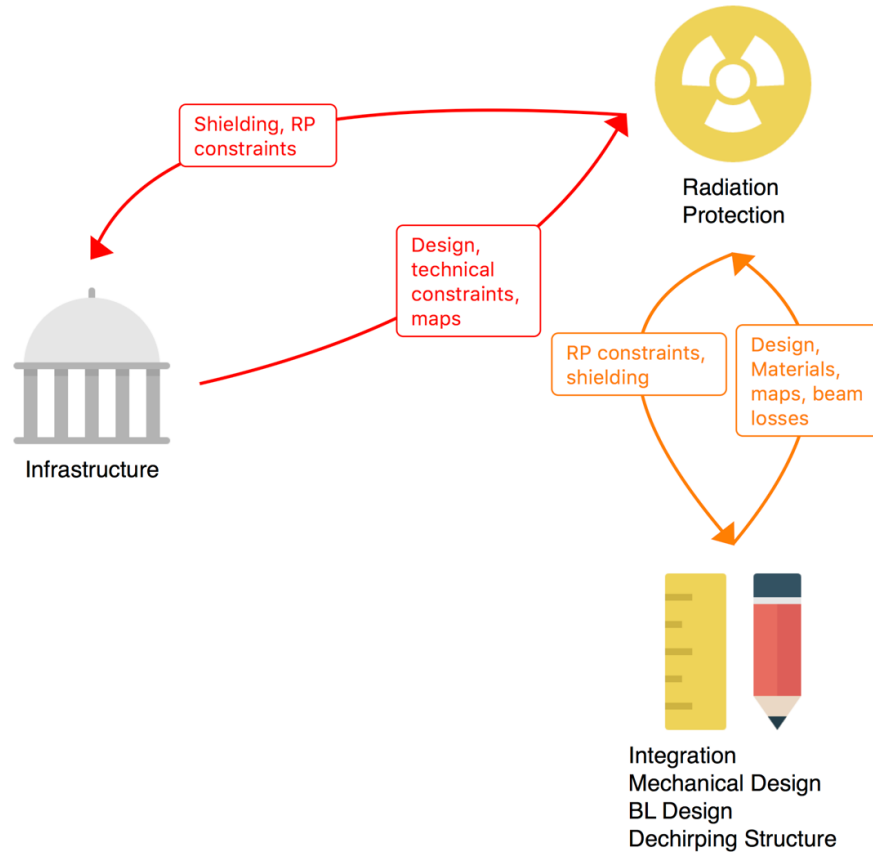
# Contexte 1/2

- Radiation Protection goals:
  - Protecting workers and users against ionizing radiation
  - Protecting people and environment against radiological impact of the exploitation of the facility
  - Obtaining the licence to run the facility
- Radiation Protection for PRAE
  - Assessing radiological impact in order to optimize exposition:
    - Shielding design
    - Radiation protection zoning; assessments of the radiological assessments of workers/users; medical survey
    - Protection of population and environment: air/water activation (and potential release); radioactive waste management
    - Radiation Monitoring System design
    - Balance between costs and opportunities

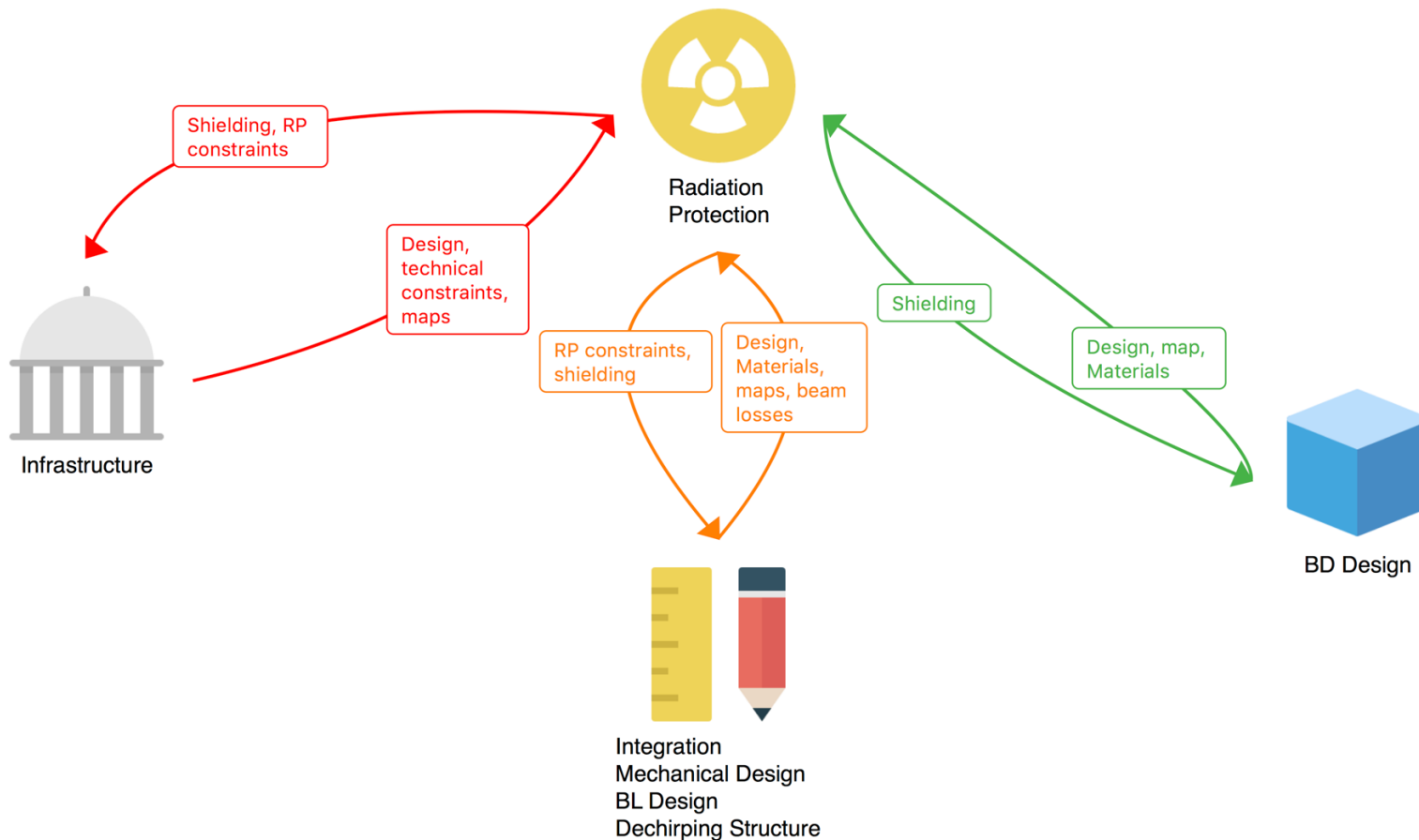
# Contexte 2/2



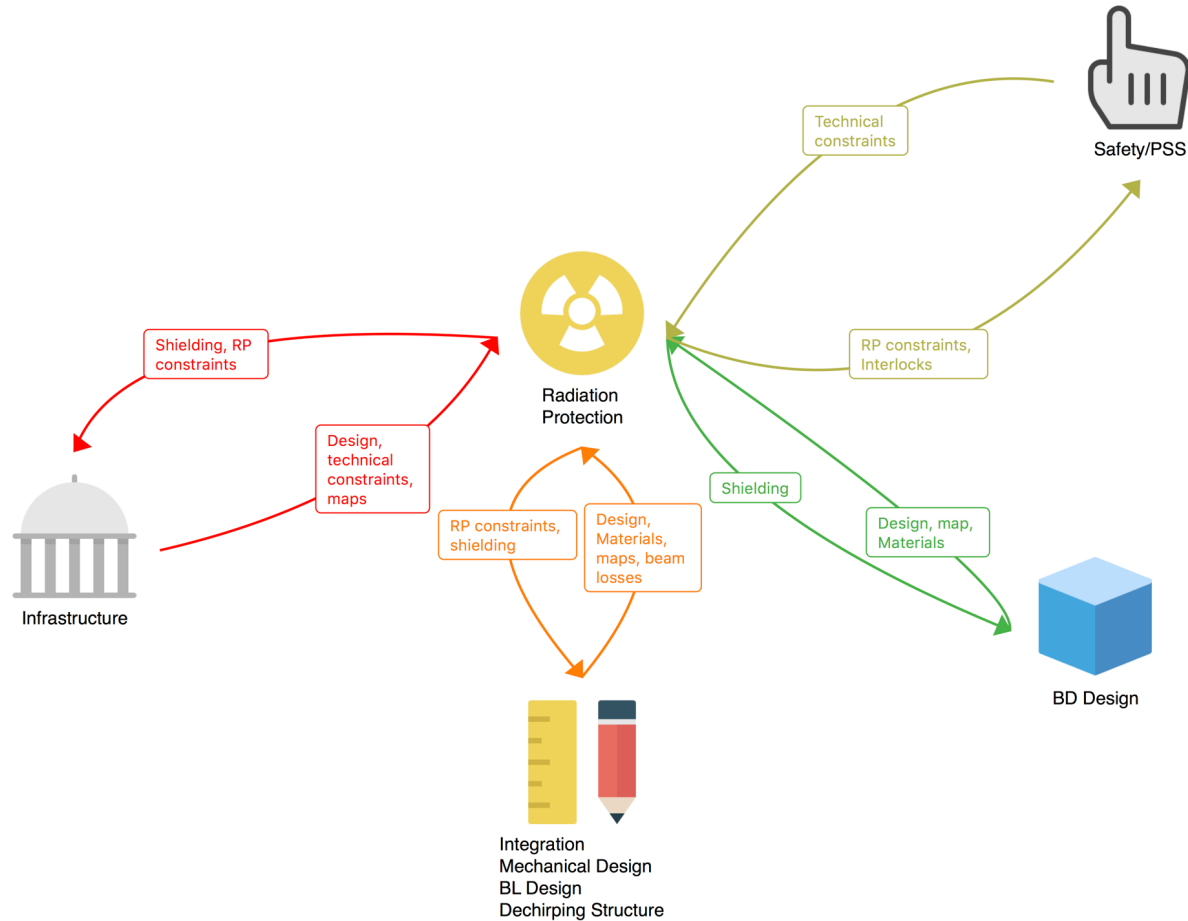
# Contexte 2/2



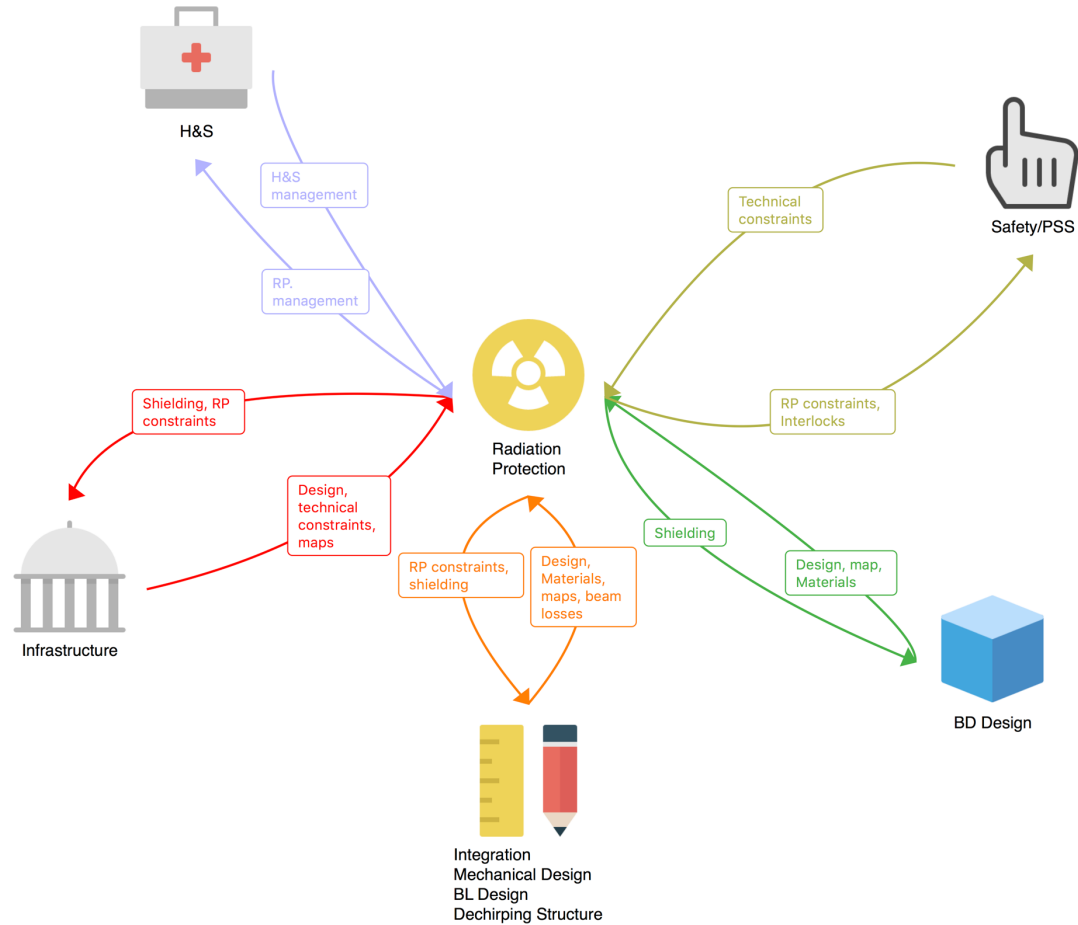
# Contexte 2/2



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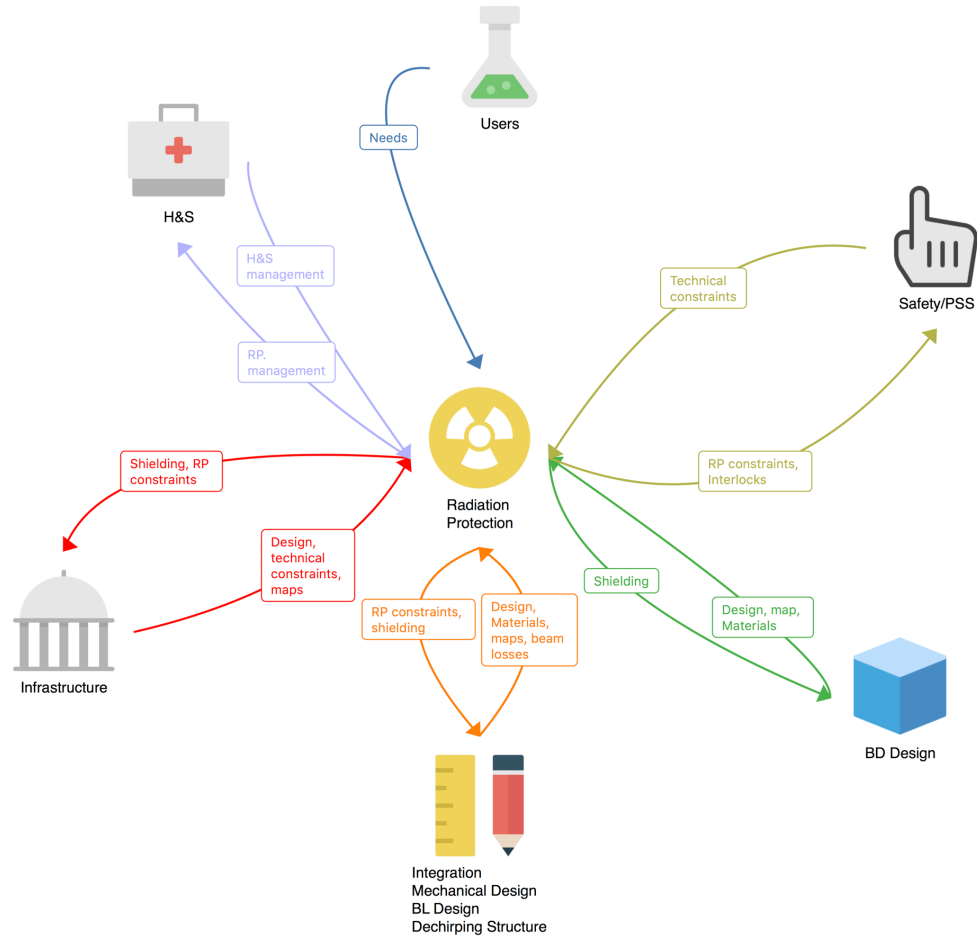


# Contexte 2/2

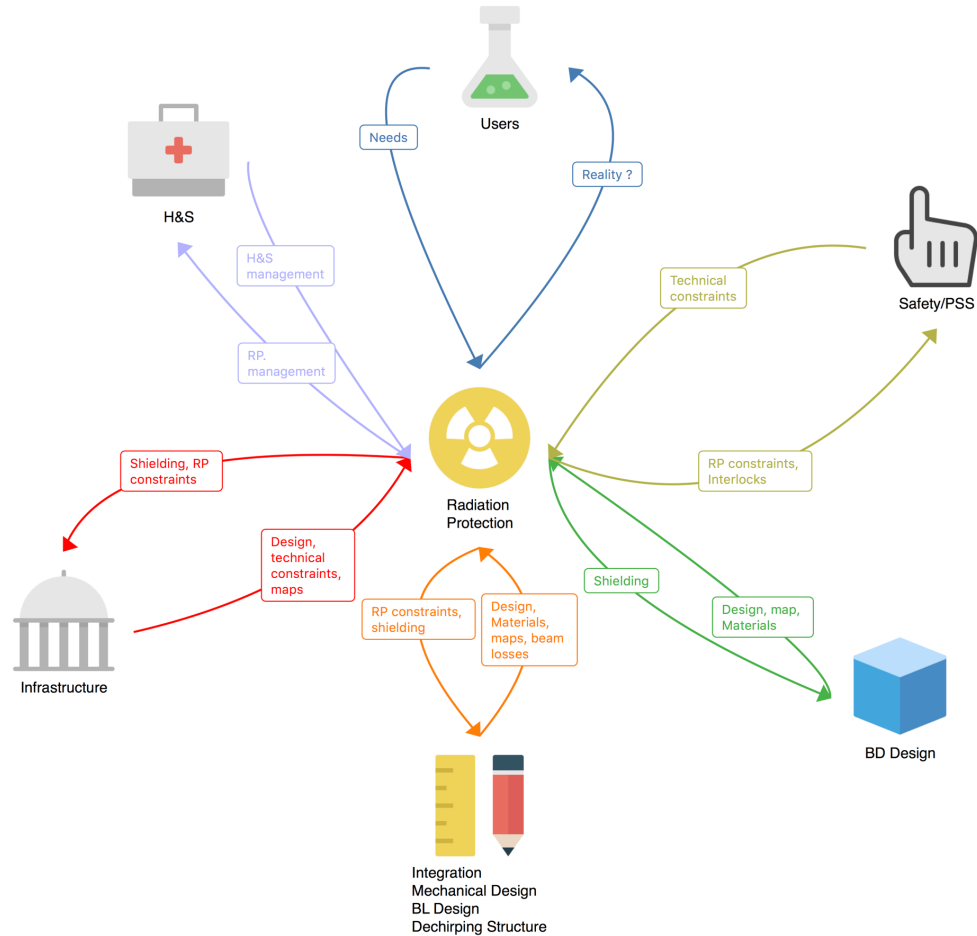




# Contexte 2/2



# Contexte 2/2



# Solution fonctionnelle

- Numerical Simulations
  - Beam-loss definition: localization, loss percentage, various modes...
  - Geometrical Modelization: Data on building, accelerator parts (localization, materials....)
  - Radiation Protection Goals: RP Zoning, Workers' and Users' classification...
  - BD Design: Mandatory to realize complete studies

# Status

- iRSD – PRAE collaboration in progress
- Needs of data: machine design, beam physics...
- Critical points :
  - The more things change, the more time is needed for simulations to be done.
  - Impact of RP on building
  - Strong interactions between RP and Safety

# Planning

2018 Nov | 2019 May | Aug | Nov | 2020 May | Aug | Nov | 2021

**Setting-up Licence files writing**

11/2018 - 1/2019

**Licence files writing**

9/2019 - 3/2020

**Licence files reviewed by ASN**

3/2020 - 1/2021

**RP Studies**

1/2019 - 3/2020

3/2020 - 6/2020

**RMS Setting-up (call for tender +  
installation)**