

AXE DE RECHERCHE :
Automatisation de la construction
virtuelle et sur chantier;
Intelligence artificielle

RDC-Prompt: AXE 2

ATELIER : INNOVER ENSEMBLE
LE 04 NOVEMBRE 2020

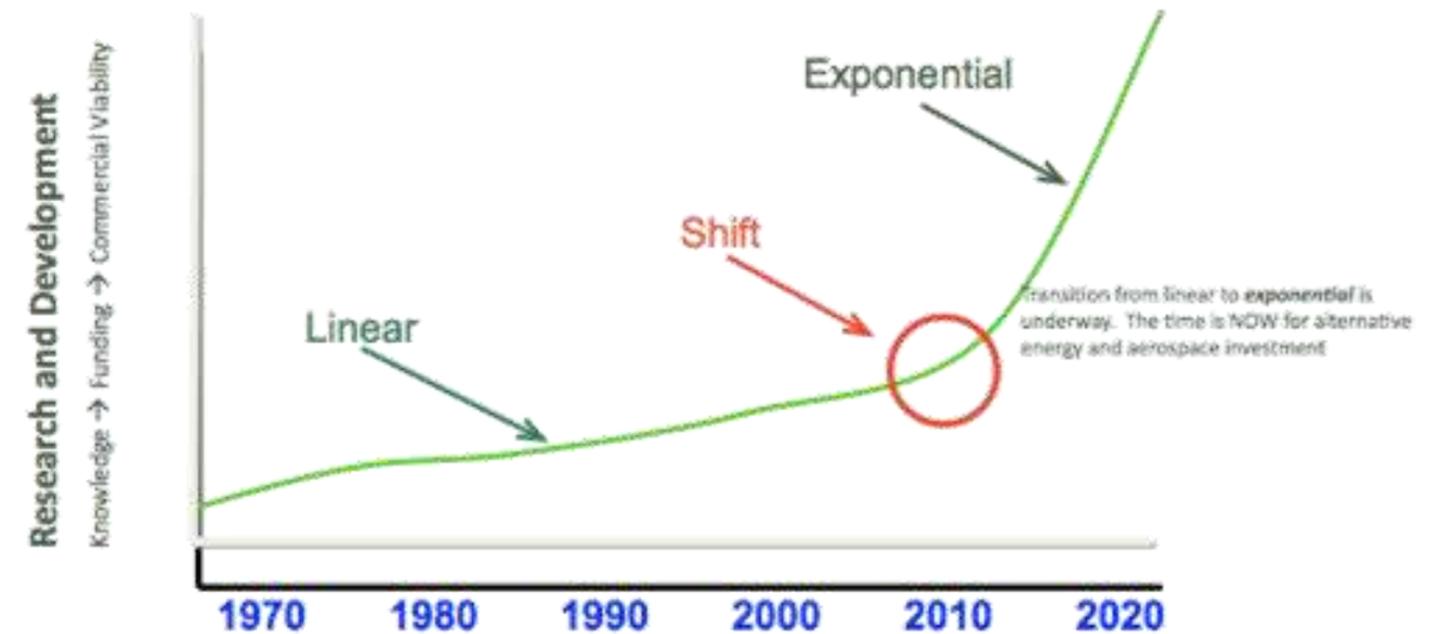
Leaders de l'axe :
Ivanka Iordanova
Ali Motamedi

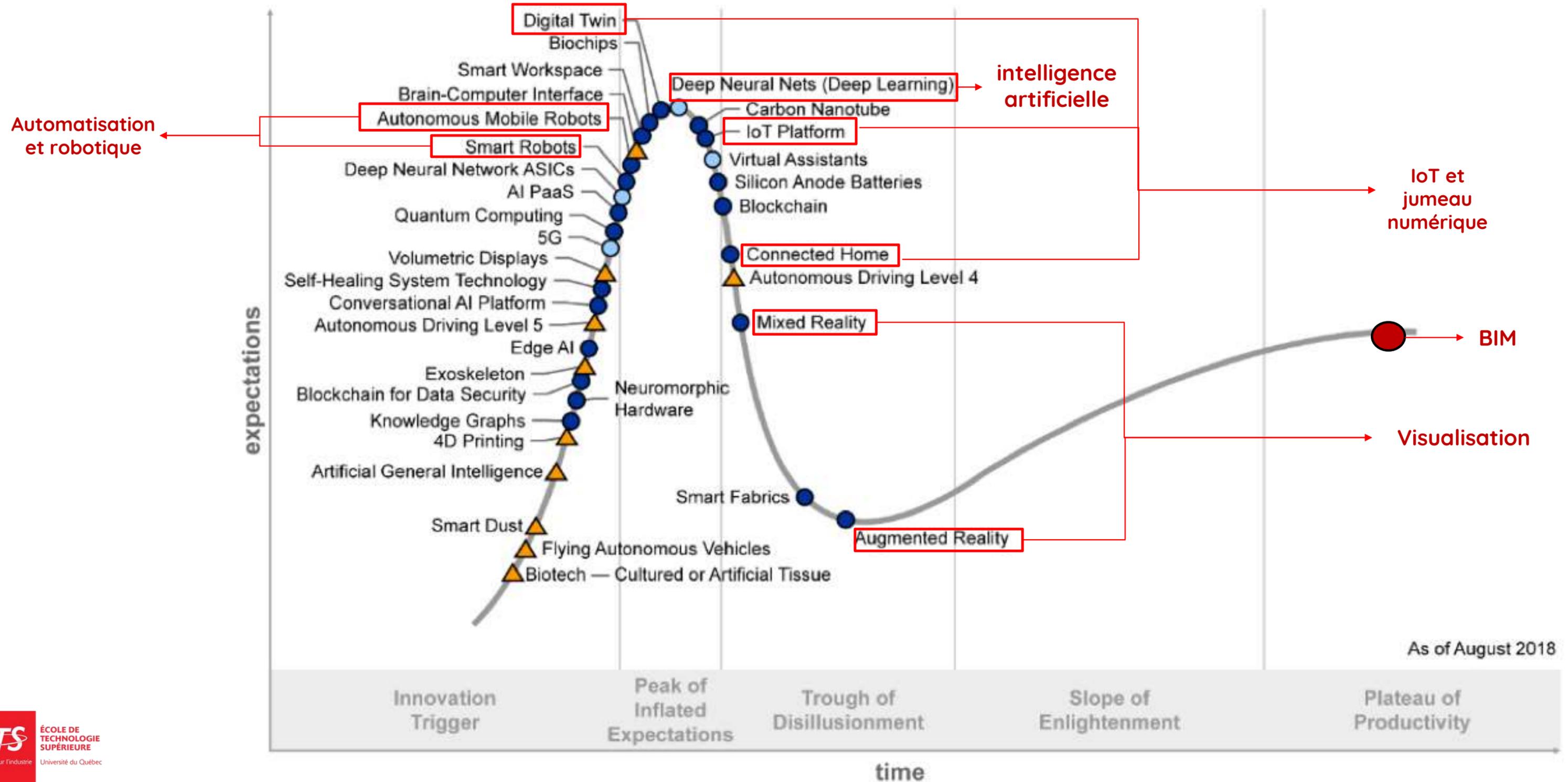
En partenariat avec :

Objectifs de l'axe 2

Amélioration de la productivité et génération de valeur au travers de l'automatisation des processus.

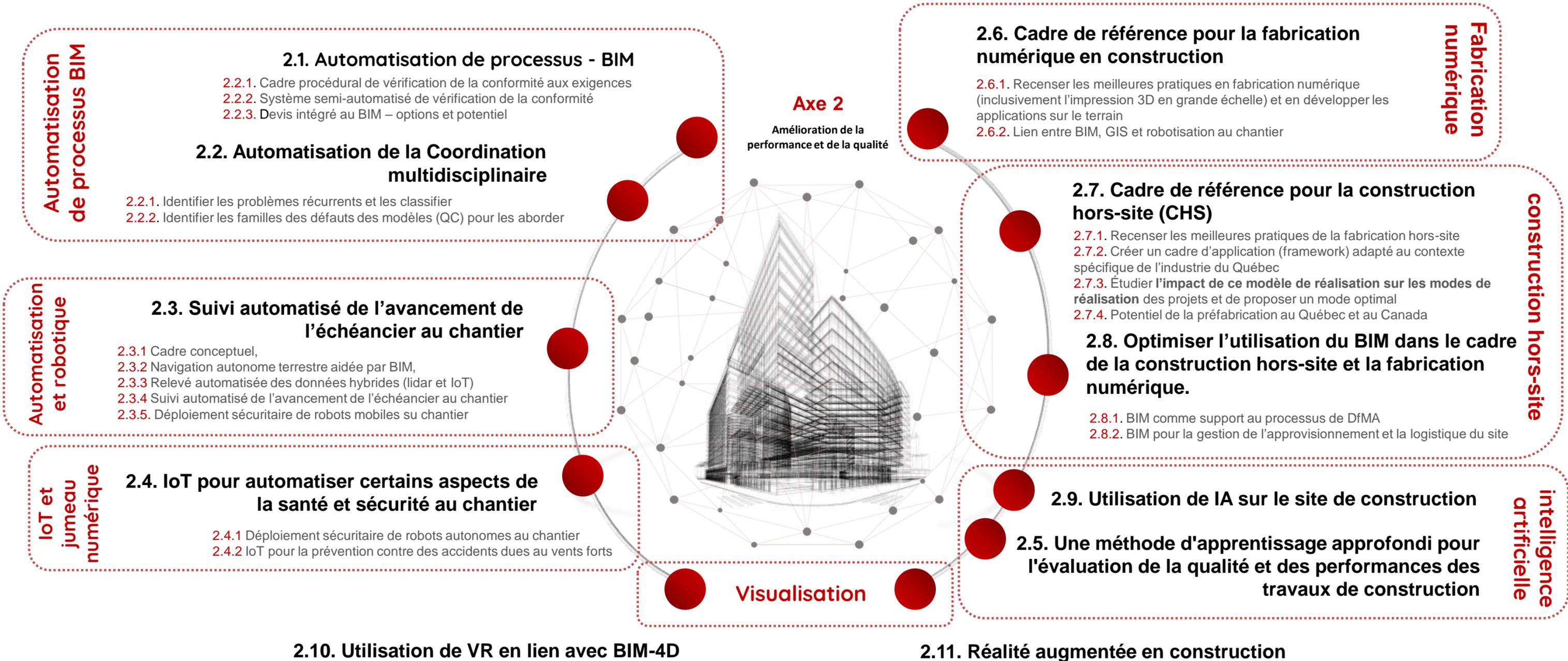
Technology Acceleration Curve



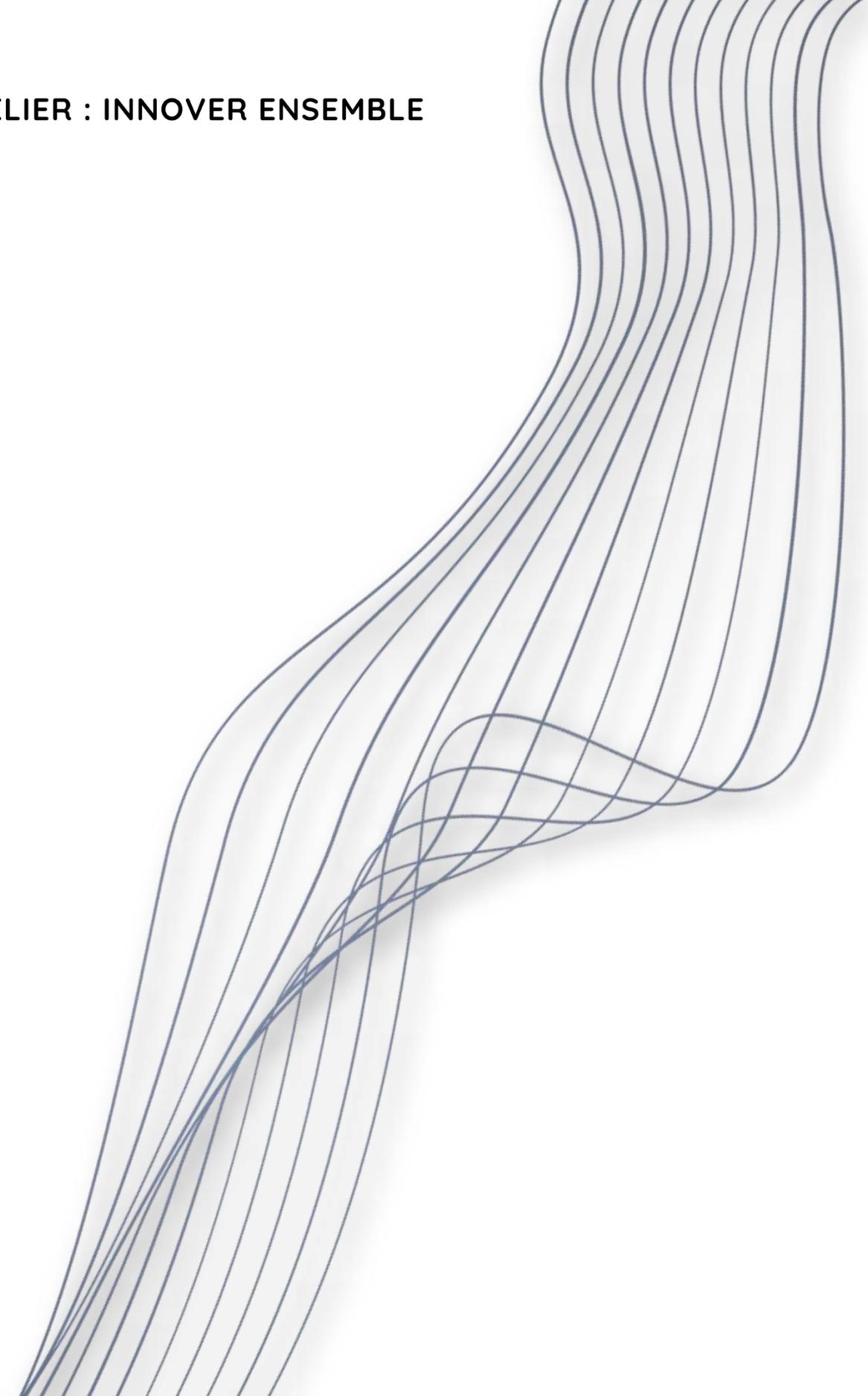


Plateau will be reached:

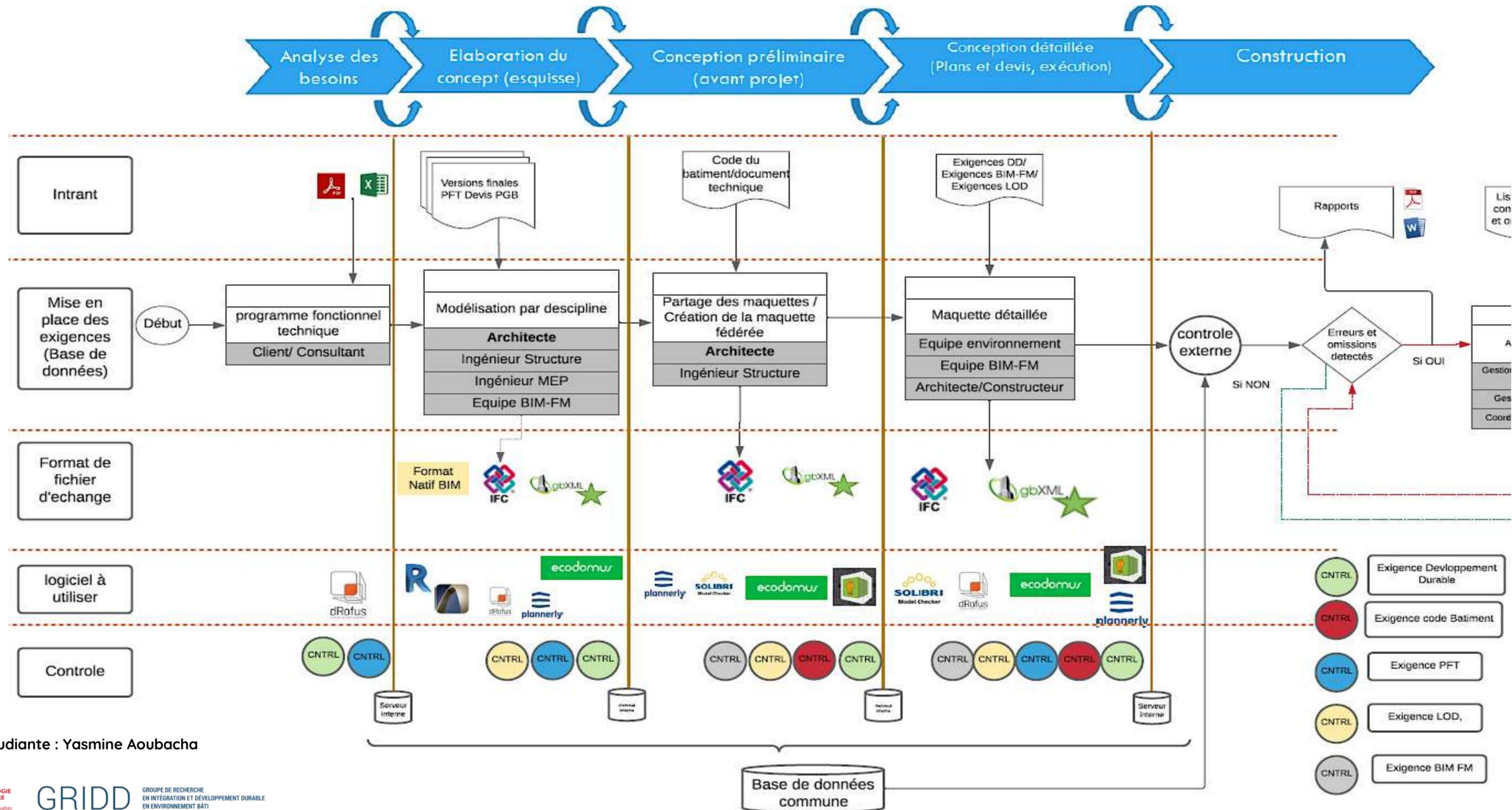
- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau



Projets en cours



Cadre procédural pour la validation de la conformité aux exigences (architecture)



Nom de l'étudiante : Yasmine Aoubacha

Real time wind data integration for safety-related monitoring and alerting on construction site

Problem:

High winds may affect construction safety in different ways. There are numerous statistics of injuries and death caused by working in these conditions. There is a need to monitor conditions continuously and locally at the work places, especially at height.

Objectives:

- Reduce the risk of accidents for workers who work at height.
- Monitoring wind speed and related safety issues in Real-Time.
- Respond to the safety issues in the right direction at the right time.
- Predicting safe and unsafe conditions.



Student name : Siamak Rajabi

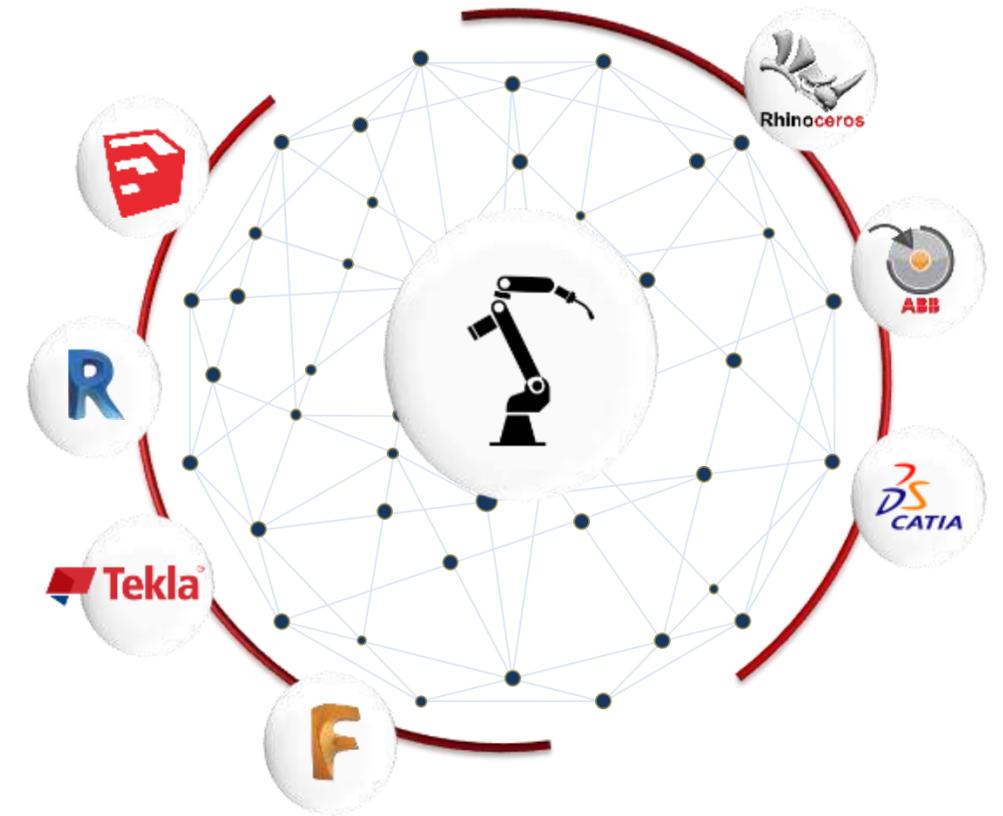
L'application du BIM à la fabrication numérique

Problématique

- Le manque d'interopérabilité entre le BIM et la fabrication numérique

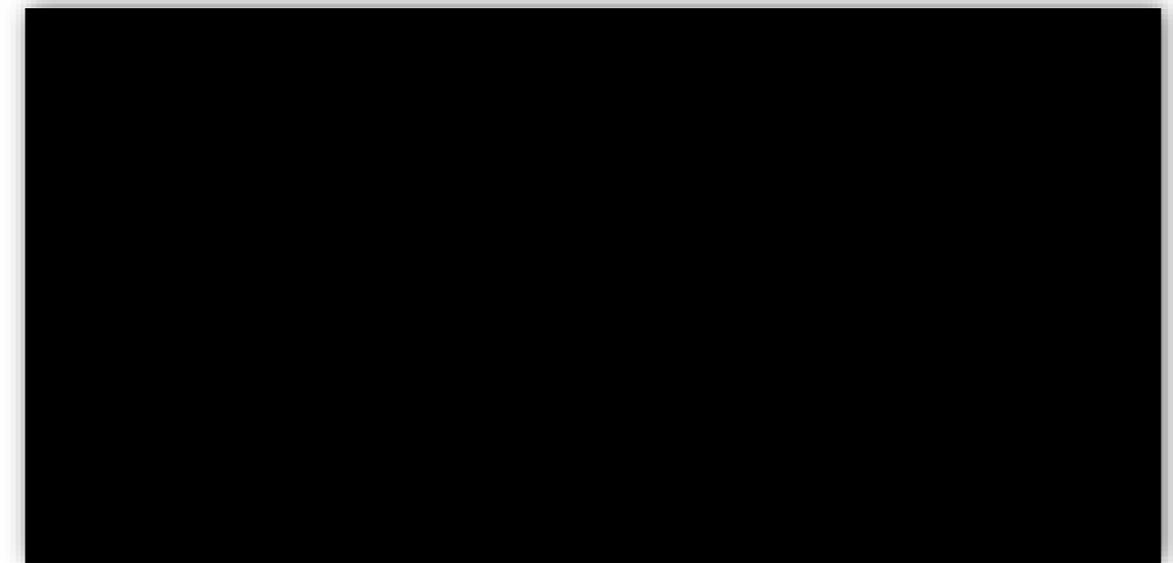
Objectif

- Combiner l'utilisation du BIM et la fabrication numérique ;
- Analyser la situation actuelle de l'interopérabilité sous ses différentes dimensions ;
- Identifier les différentes structures des formats numériques utilisés ;
- Suggérer et tester des chemins de développement.
- Réaliser un projet d'impression 3D en béton avec un modèle BIM



Nom de l'étudiant : Walid Anane

Un projet co-supervisé par Prof. Claudiane Ouellet-Plamondon (ÉTS)



Development of a Decision Support System for the Application of Digital Fabrication in Off-site Construction

Goal: Help increase the degree of satisfaction for each success criteria in construction.

Objective: Develop a **Computer-Aided Decision-Support System (CADSS)** for the use of digital fabrication in off-site construction, including proposing a BIM-integrated digital fabrication process for multifunctional components or parts of buildings.

What kinds of digital fabrication can be used in off-site construction?

What are the key factors for the choice of a digital fabrication method in off-site construction and how do they affect the decision?

Propose a Computer-Aided Decision-Support System (CADSS) for construction practitioners to improve their decision making process; validate it in industry

Student name : Mehdipoor Amirhossein