

Automatisation d'un processus via un contrôle adaptatif

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Groupes thématiques / Équipes

CO2 : Control and scientific Computing

- CFHP
- DEFROST
- SHOC
- VALSE

I2C : Interaction et Intelligence Collective

- Algomus
- BCI
- Loki
- MINT
- NOCE
- SMAC

OPTIMA : OPTImisation : Modèles et Applications

- BONUS
- INOCS
- ORKAD
- OSL

DatInG : Data Intelligence Group

- MAGNET
- SCOOOL
- SIGMA

Image

- 3D SAM
- FOX
- Imagerie Couleur

SISE : Systèmes Informatiques Sûrs et Efficaces

- 2XS
- LINKS
- SyCoMoRES

GL : Génie Logiciel

- CARBON
- EVREF
- Spirals

MSV : Modélisation pour les Sciences du Vivant

- BioComputing
- Bonsai

ToPSyS : Tolérance Pronostic Système de Systèmes

- PERSI
- SoftE
- ToSyMA

PRETIL

DÉMONSTRATEURS ▾
PROJETS DE RECHERCHE ▾
INGÉNIERIE ▾
NEWS
FAQ

ACTIFS	TERMINÉS
COBRA	MATRICE
RITMEA	CIRMAP
CUEIBOT	SPEED
SOS	CHAMPIBOT
LOCSP	COBOFISH
TIRREX	ELSAT2020
BEPROACT	
CORNELIA	

GESTION DE PROJETS & SYSTÈMES

Expertise en Ingénierie des Systèmes d'Informations;
Sécurité et IoT.

SIMULATEURS & DÉMONSTRATEURS

La Plateforme de recherche en Robotique Et Transports Intelligents de Lille dispose de pléthores de démonstrateurs et simulateurs physique et numériques .

GESTION DE PLATEFORME

Plateforme Labélisée; partie prenante dans les groupes des travaux et chargés de missions nationaux au sein de l'INS2I.

INGENIERIE LOGICIELLE

Utilisateurs et contributeurs experts aux logiciels et IHM développés en interne.

ROBOTIQUE

Enseignants, Utilisateurs et Experts, membres et animateurs du Groupe de Travail 2rm et GDR Robotique.

MÉCATRONIQUE

Expertise accrue en mécatronique parmi les collaborateurs de la plateforme. (Central Lille - Université de Lille - CNRS)



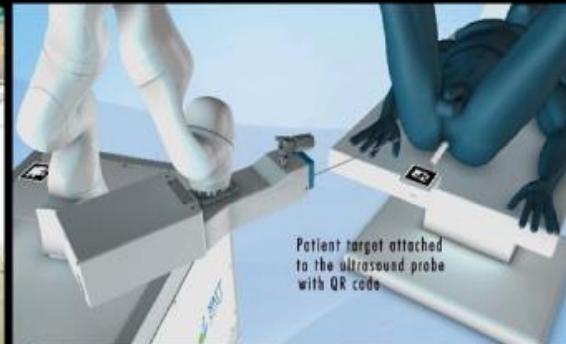
ROBOTS AUTONOMES



Fabrication additive plasturgie



Fabrication additive pour le bâtiment



Robotique médicale



Robotique mobile



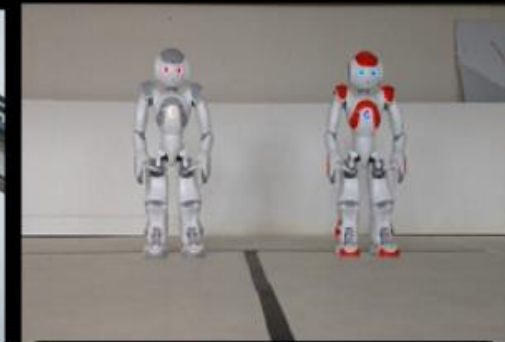
Robotique bio-inspirée



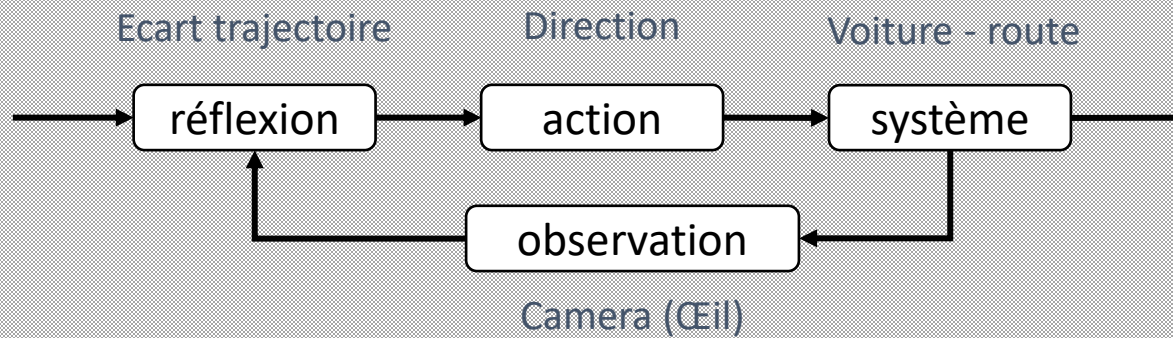
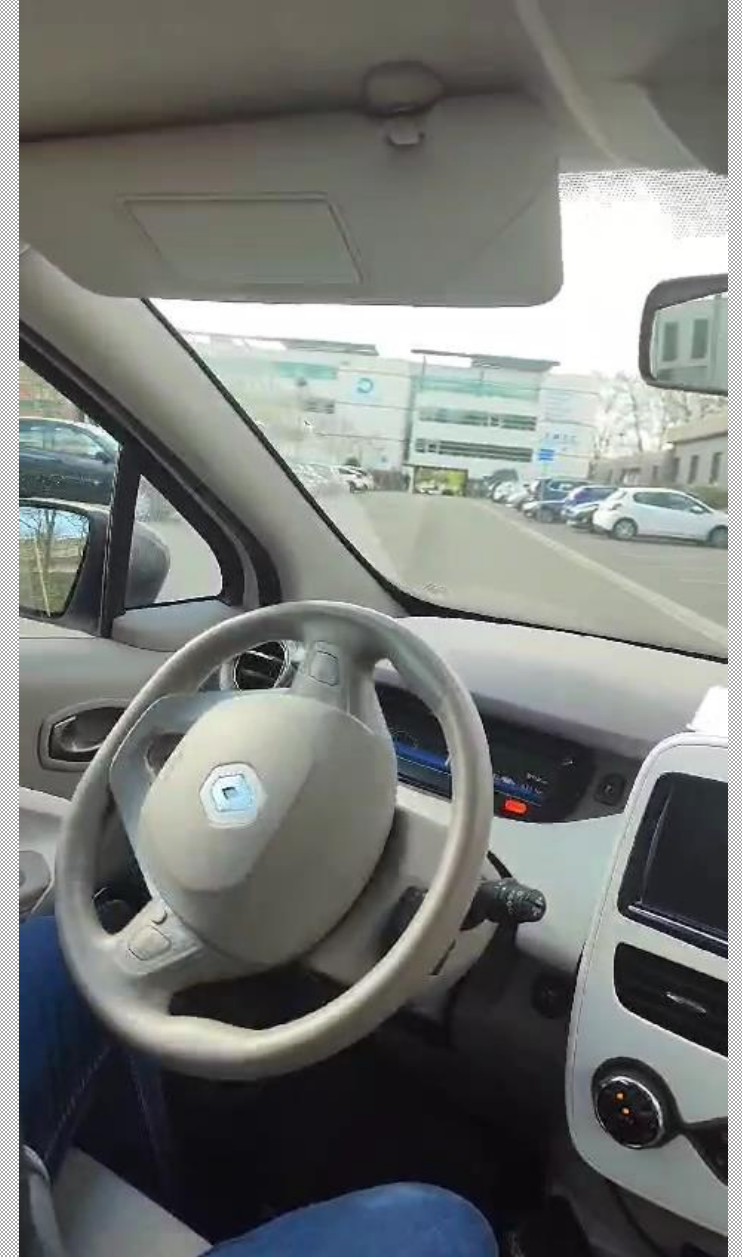
Atelier Robotique



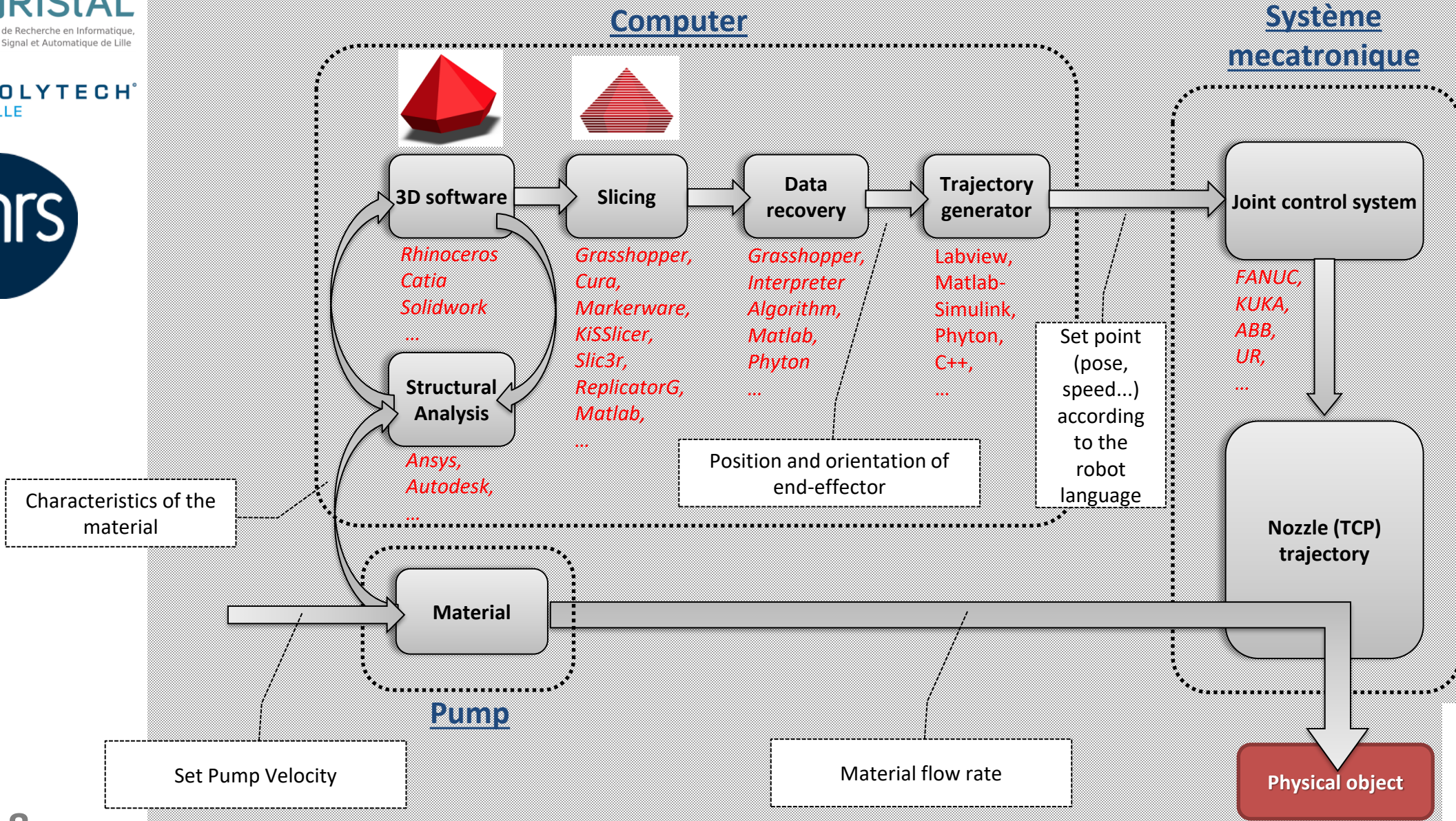
Transport intelligent

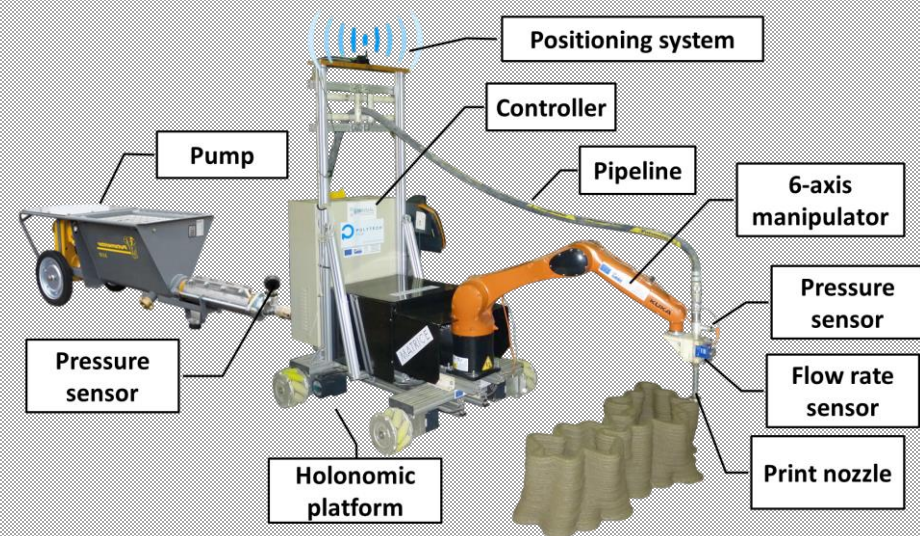
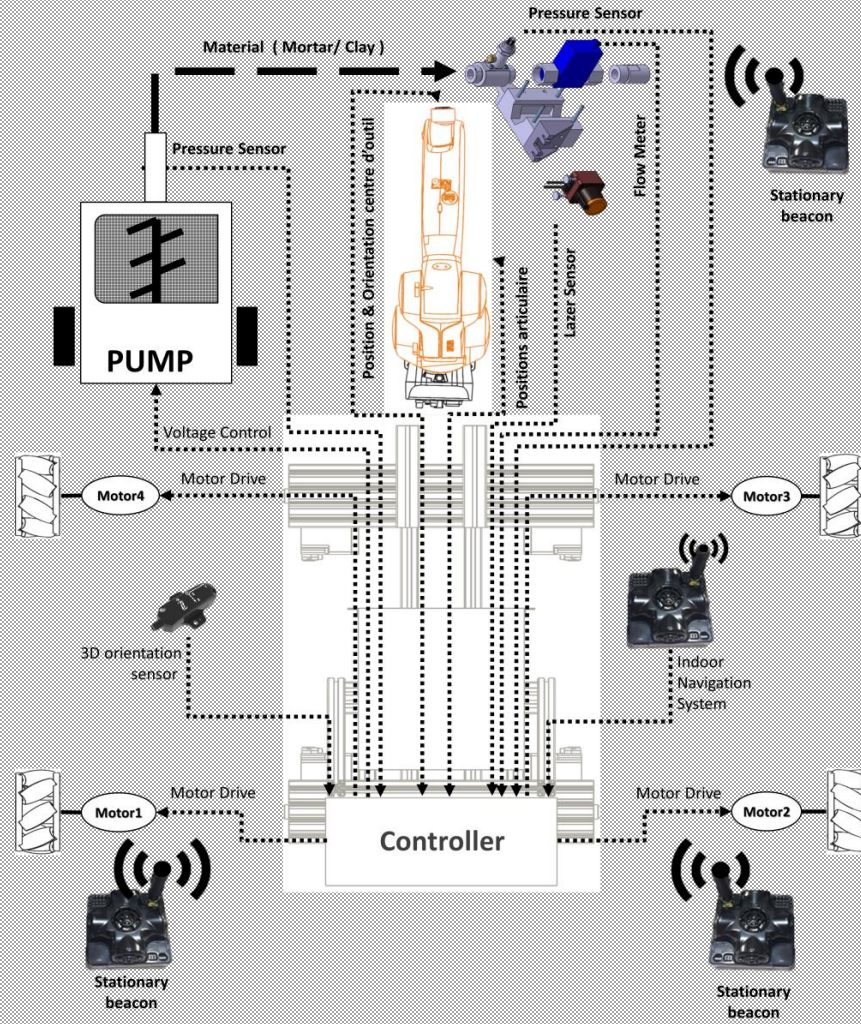


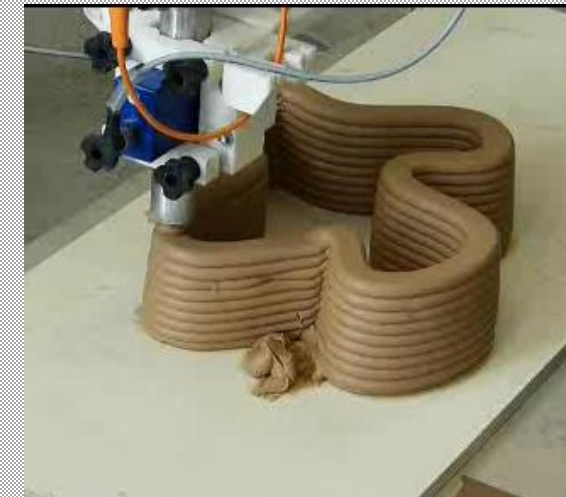
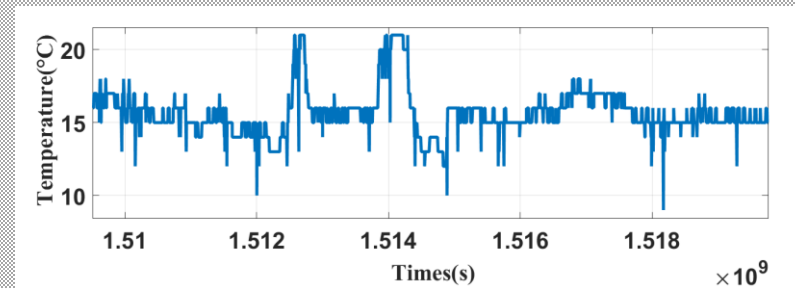
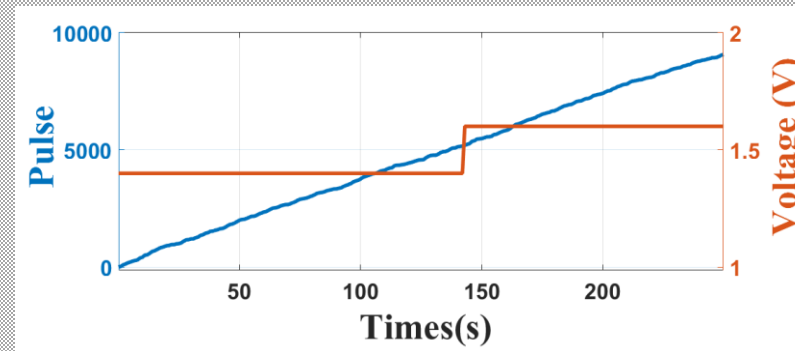
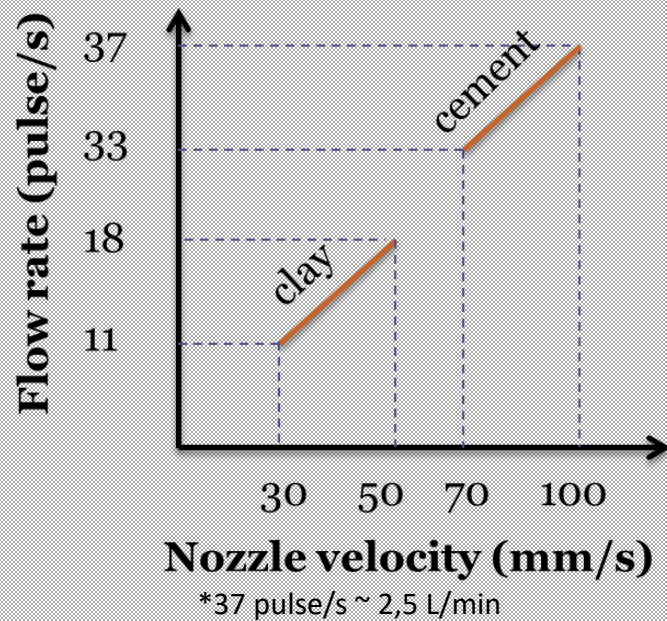
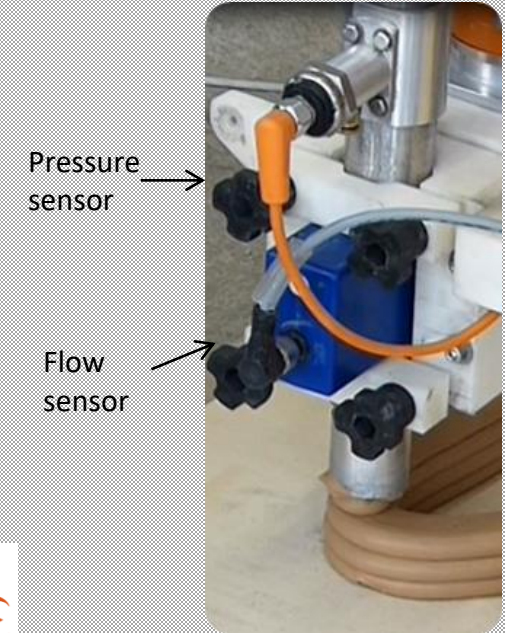
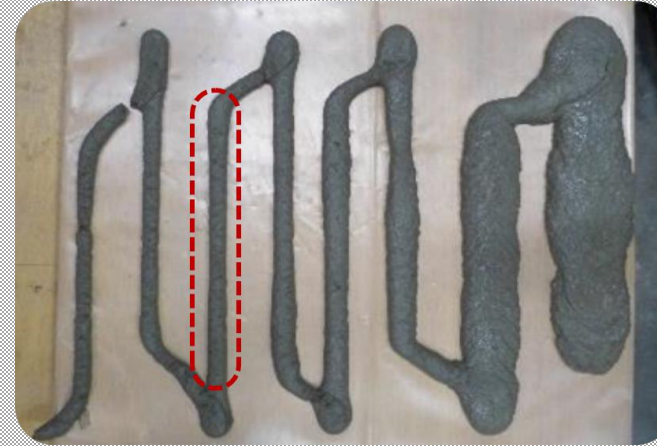
Robots humanoïdes



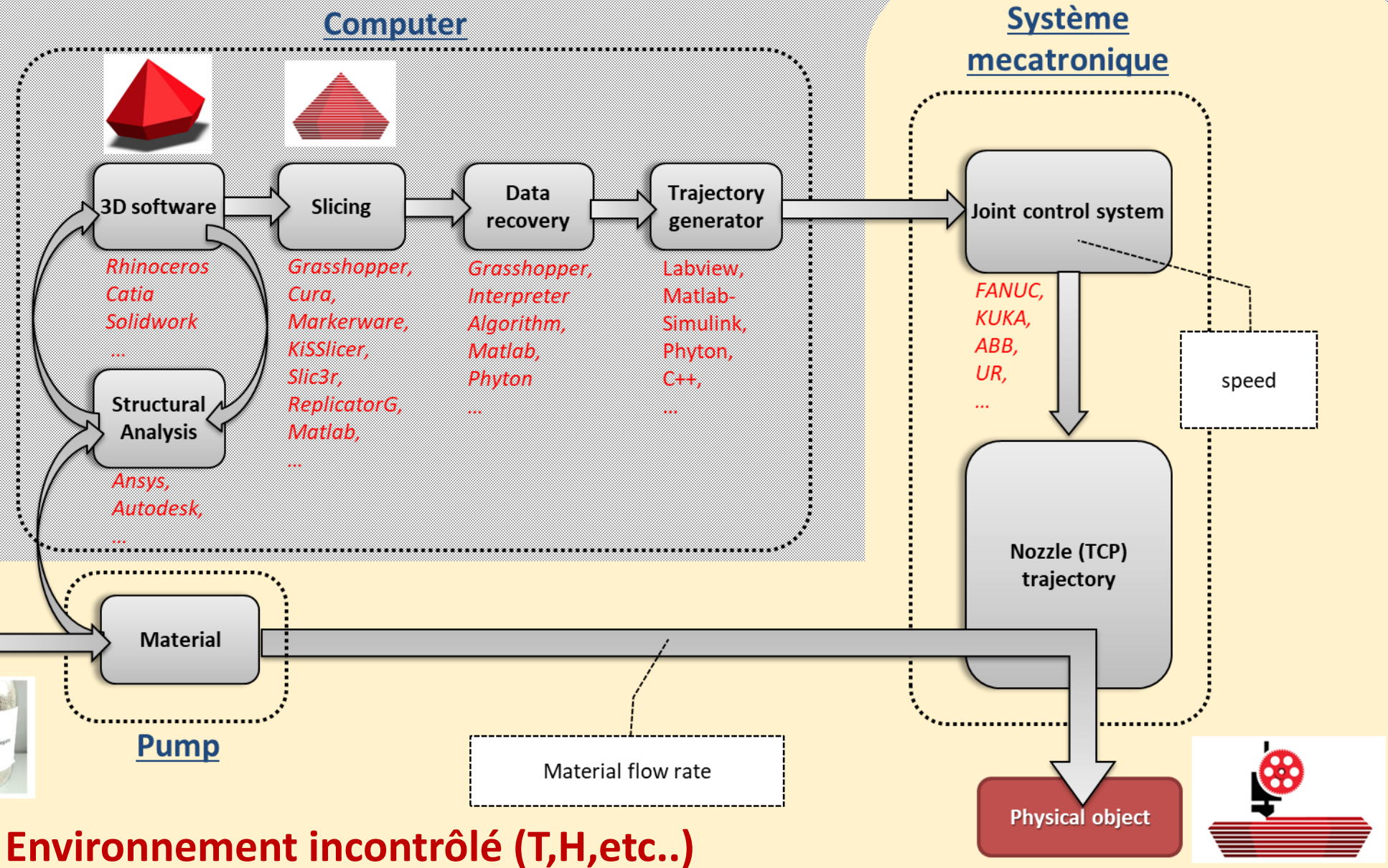
APPLICATION CONTRÔLE ADAPTATIVE : IMPRESSION 3D BETON



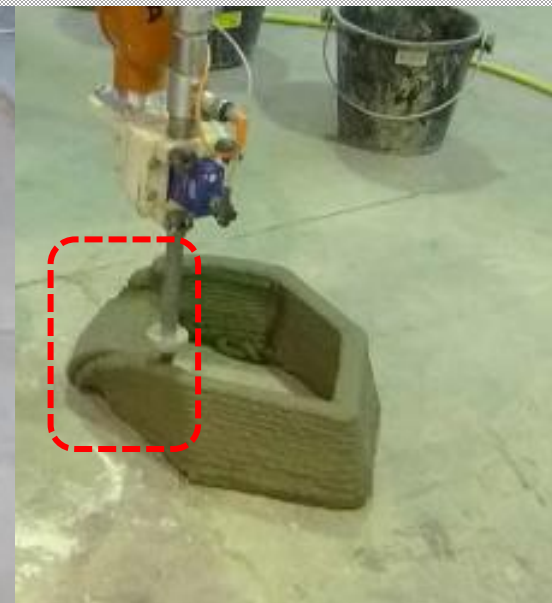
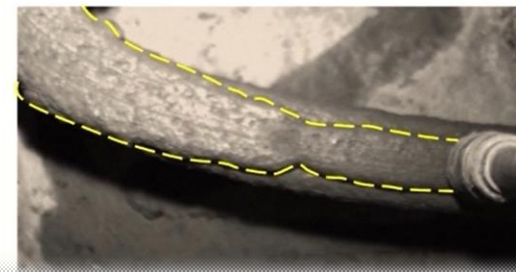
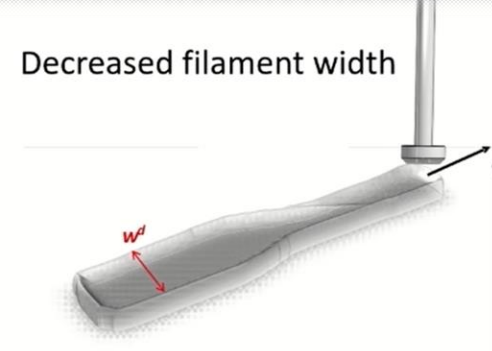
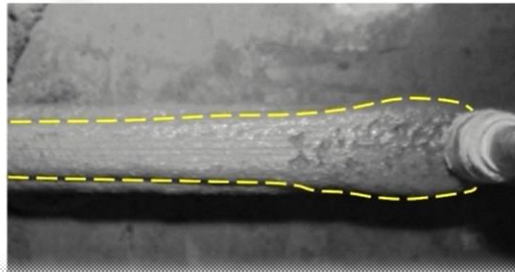
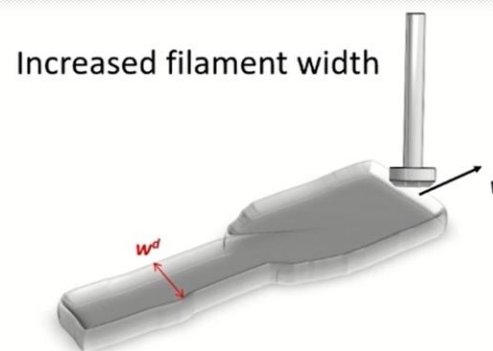
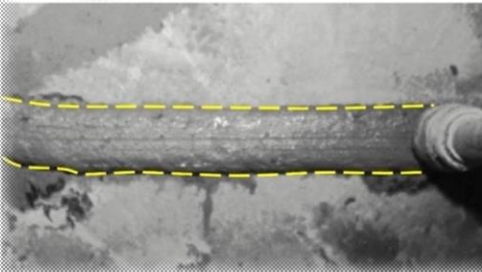
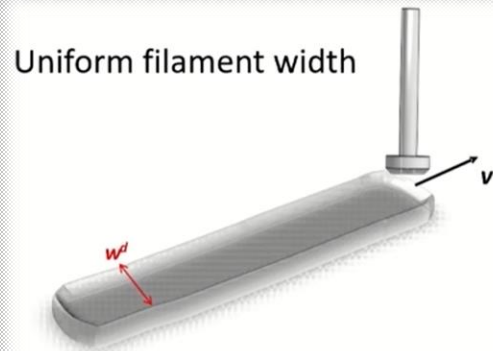




Granulats fins recyclés : Pays-Bas, Belgique, France et Allemagne



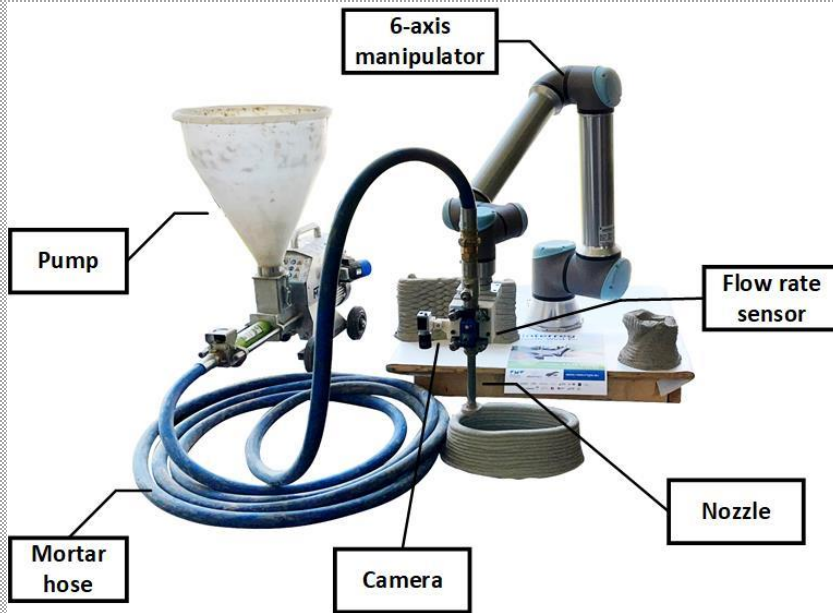
Environnement incontrôlé (T,H,etc..)





20% < Humidité < 85%
0°C < temperature < 50°C







G n ral

DYCOMETAL
Turning Technology

Etat Enceinte
Enregistrement
Manual

Temp�rature	Humidit�
22.0 �C PV	61.8 %HR PV
20.0 �C SP	50.0 %HR SP

Actif

Icons: Search, Bar chart, Light, Play, Edit, Settings

- Available data : digital

- Pump voltage: U
- Material flow rate at the nozzle: Q
- Velocity of robot: v
- Nozzle trajectory: (x, y, z)
- Actual temperature and humidity inside climatic chamber: T, H
-



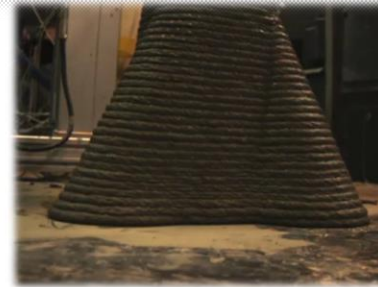
.csv file

- Available data : explorable images

Thermal
↓
Surface temperature

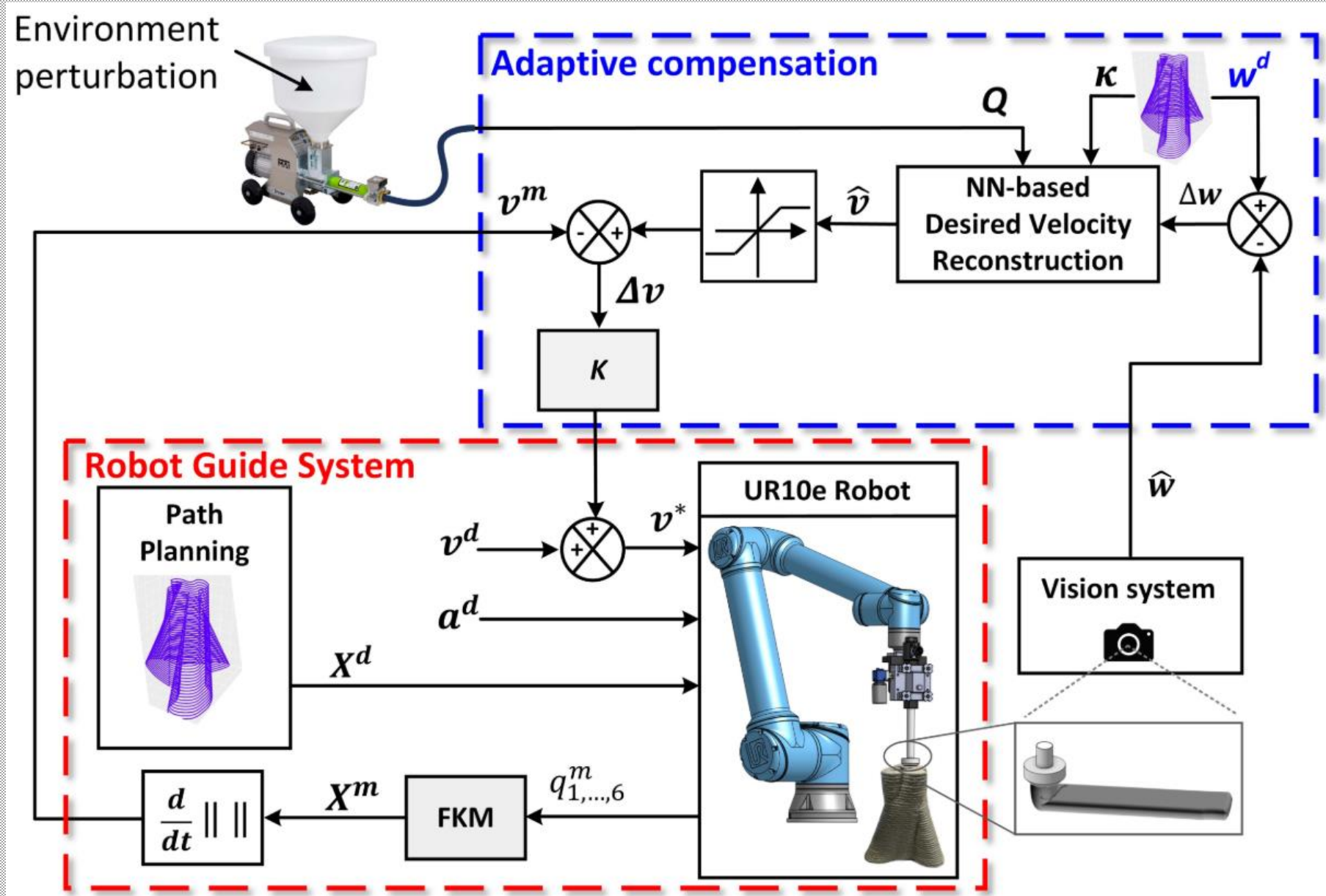


Thermal Camera

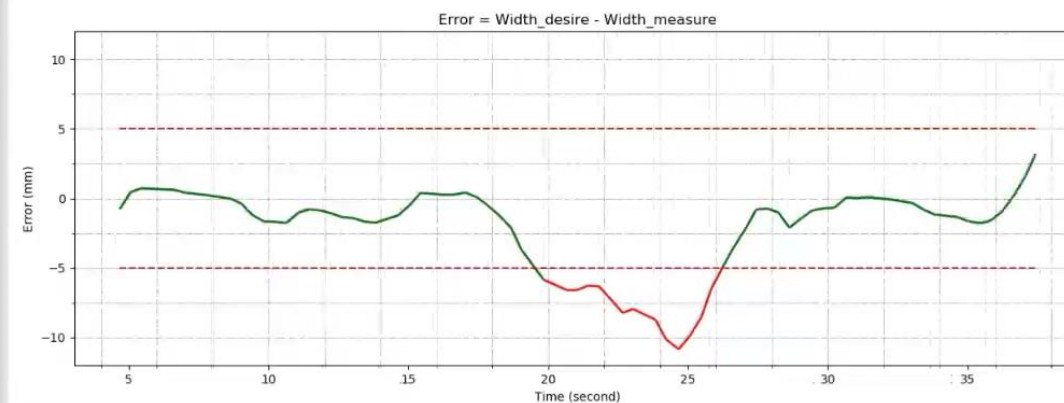
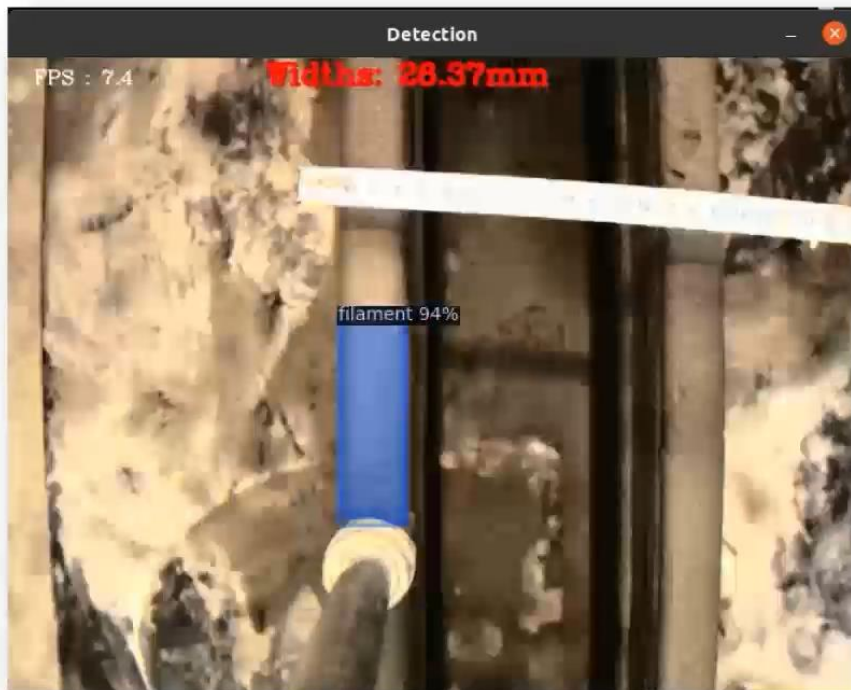


RGB
↓
Width

Industrial Camera



Filament deviation detection



Alarm:
width deviation

Compensation:
robot speed regulation

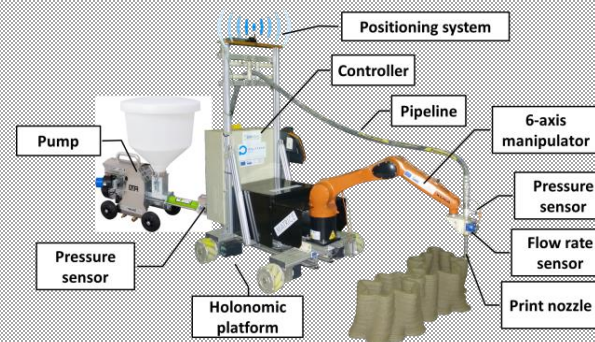
Pre-printing (emulated environment)

*rapid calibration of
machines according to
environmental variations*



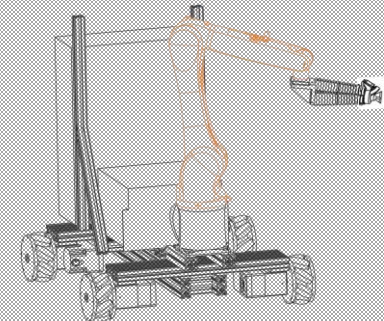
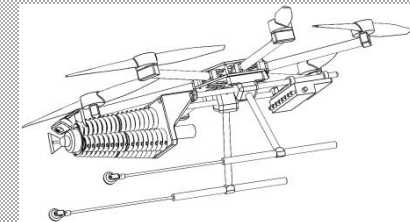
Printing (on-site)

uncontrolled environment

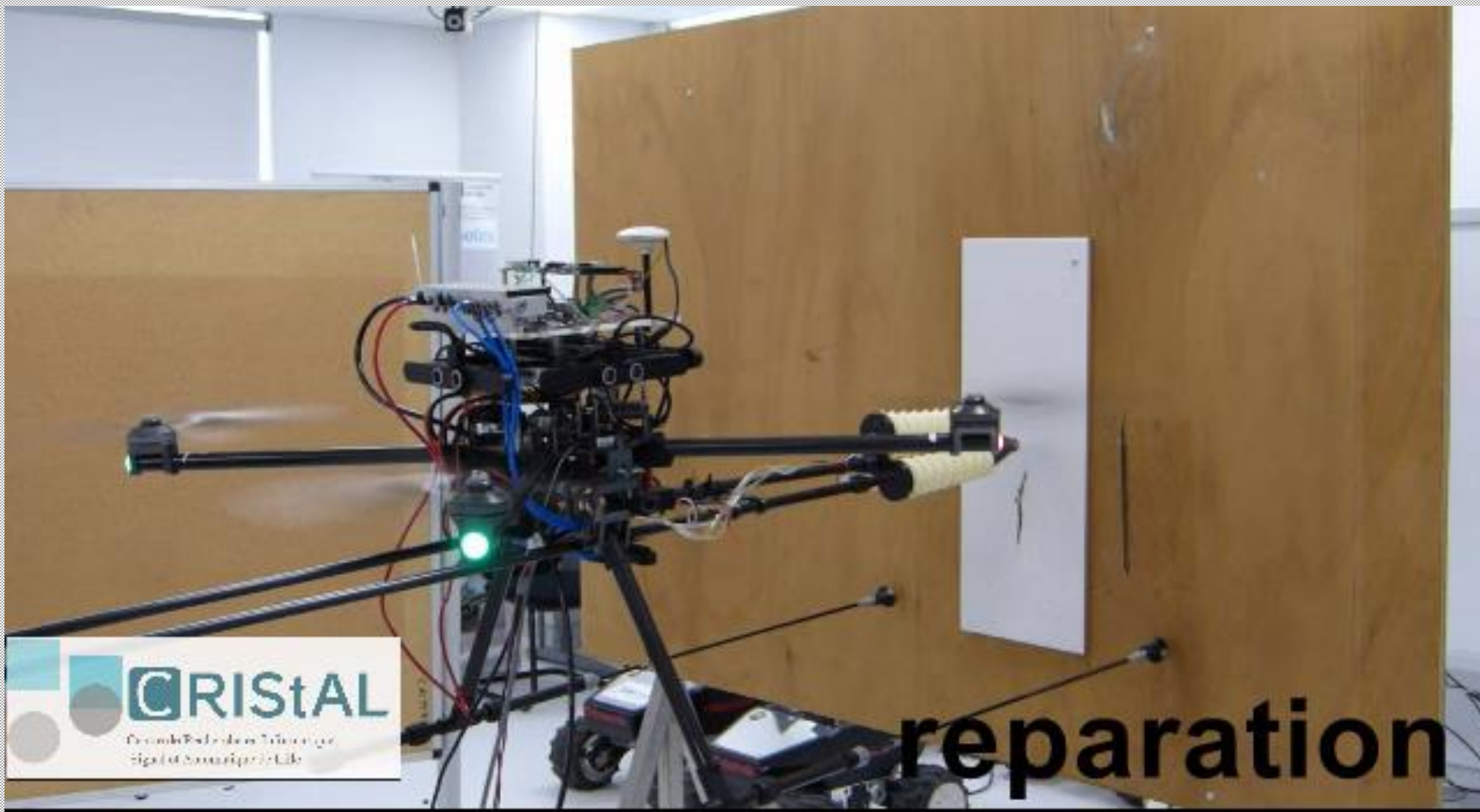


Post-printing (Maintaining the quality)

*Predictive maintenance of
integrity*



Détection et réparation de fissures par un robot aérien ou mobile muni d'un bras flexible, basée sur l'intelligence artificielle (IA).

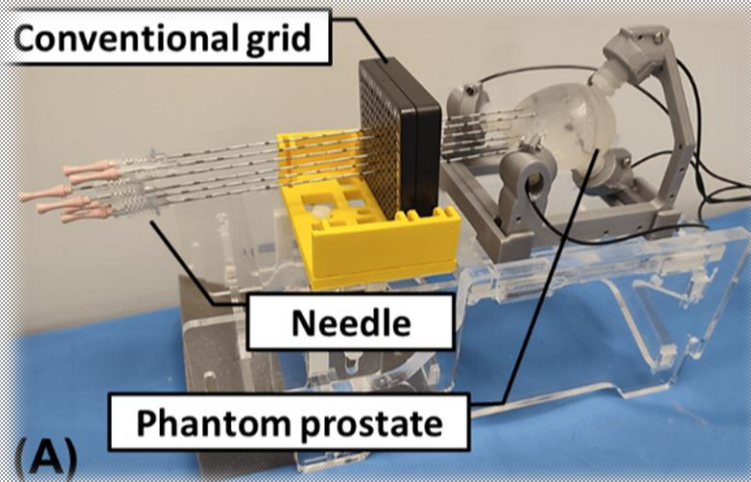
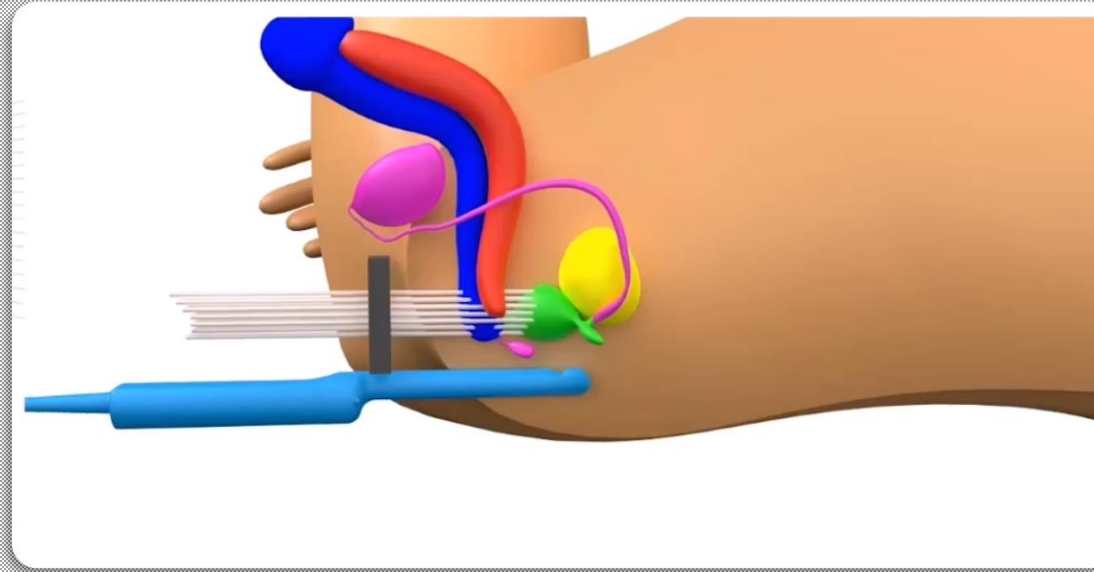


APPLICATION CONTRÔLE ADAPTATIVE : BIOPSIE & CURETHAPIE DE LA
PROSTATE

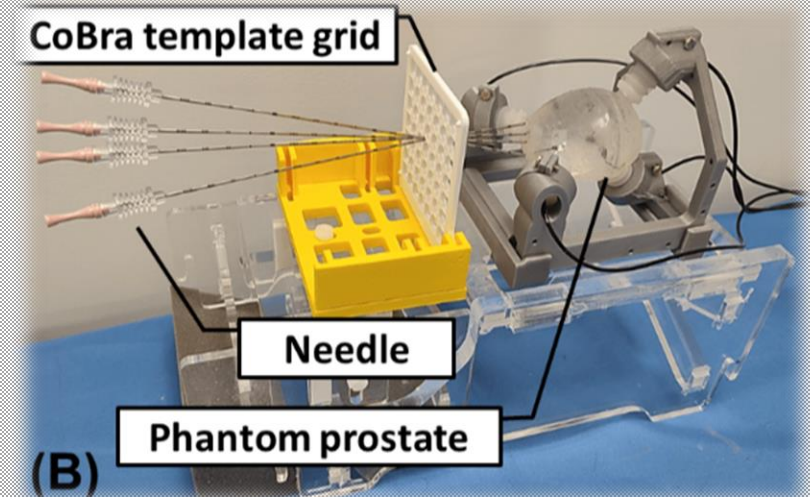


CoBra
BRACHYTHERAPY

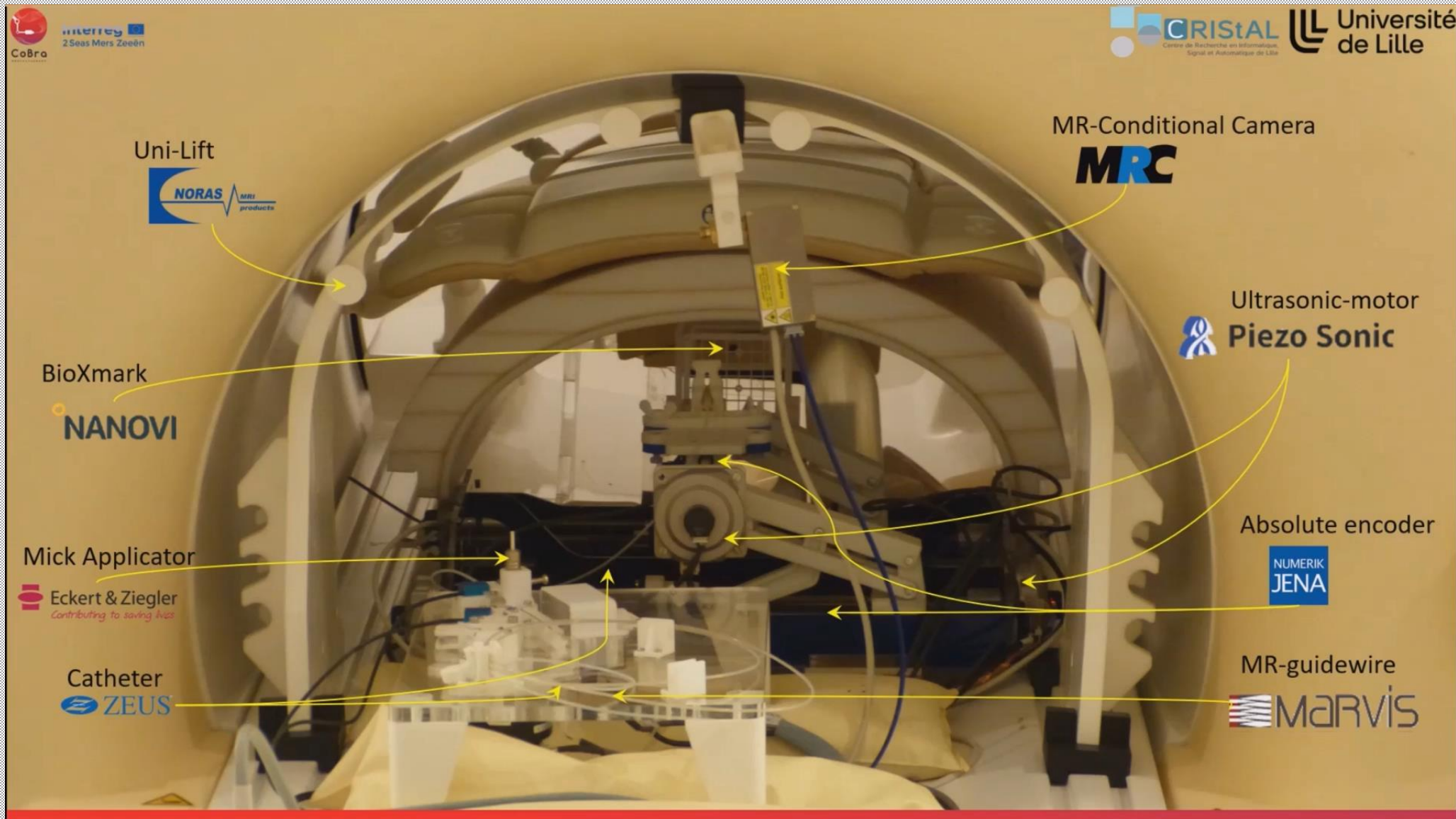
Interreg 
2 Seas Mers Zeeën



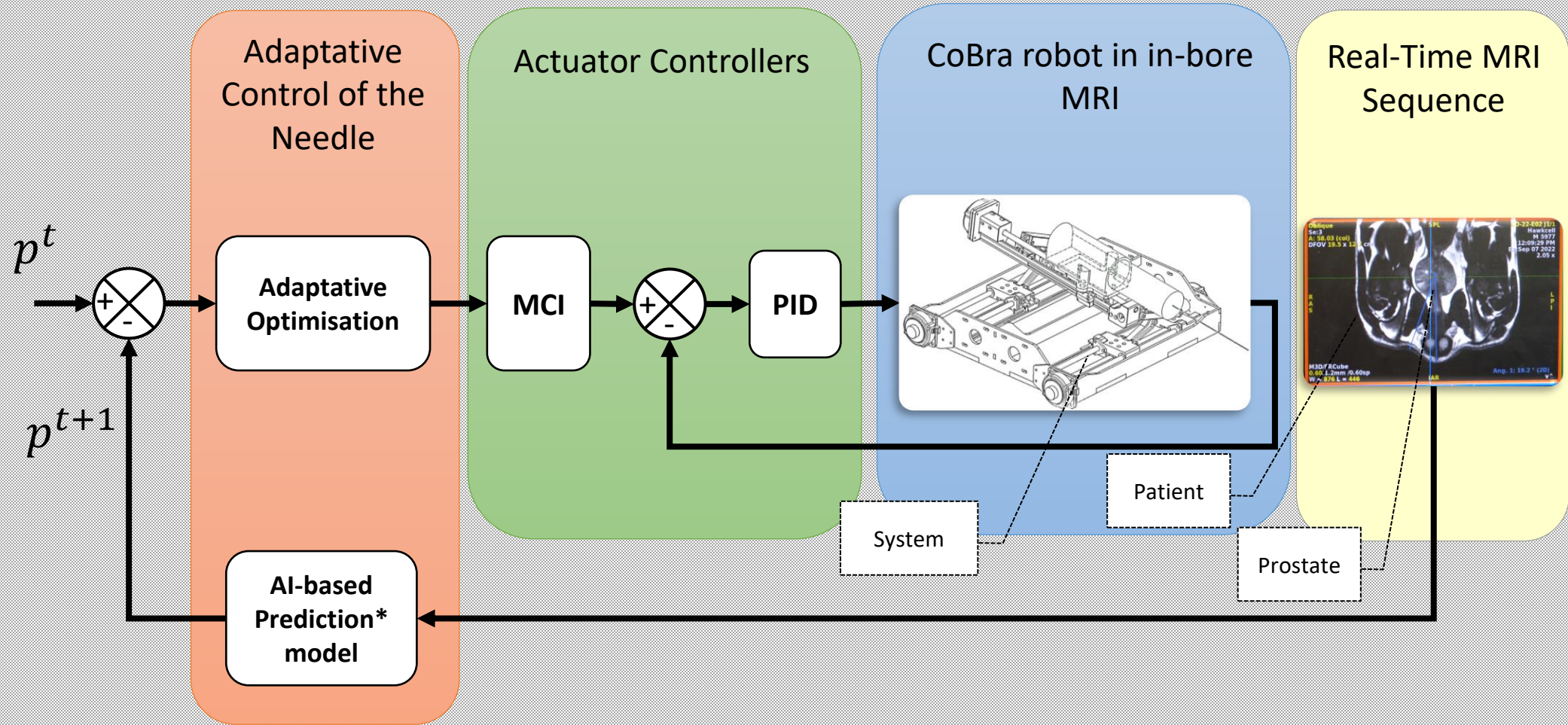
Insertion conventionnelle d'aiguilles avec multiples points d'insertion : Cela peut provoquer un œdème et un traumatisme chez les patients



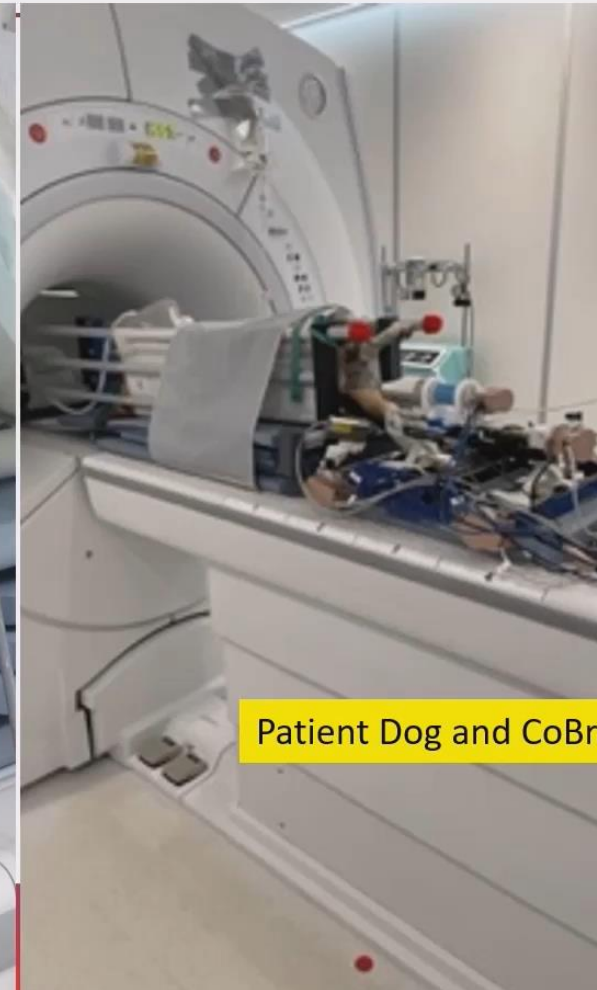
Ciblage optimal de la prostate par insertion oblique pour un traitement plus rapide et moins traumatisant pour les patients



APPLICATION M DICALE : CONTR LE ADAPTATIVE DE L'AIGUILLE



In-bore ingress of Dog and CoBra setup
Prostate biopsy on alive dog



Patient Dog and CoBra robot setup ingress

Thank you

For your attention

