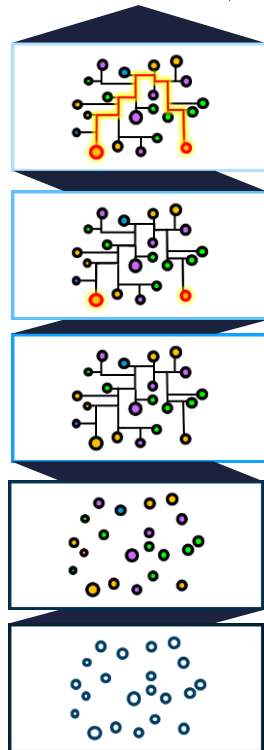
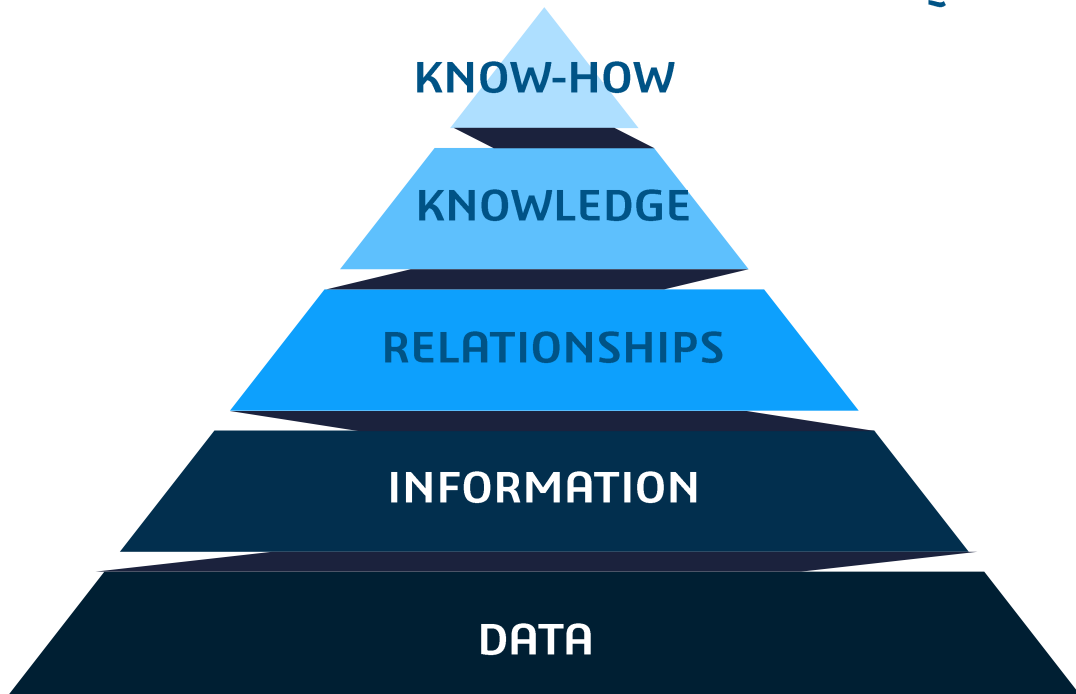




**New-Brunswick Southeast region Virtual twins: Insights & goals from
Université de Moncton pilot project
*UMNB – October 03, 2025***





Practical application of knowledge in concrete situations, with expertise

Consolidated and validated understanding of observed relationships

Information linked together to identify patterns, correlations or causalities

Data verified and processed making it meaningful and useful

Unstructured collection of raw facts and data

THE VIRTUAL TWIN: A STRATEGIC GOVERNANCE TOOL

Territorial and spatial data

Demographic and social data

Mobility & transport data

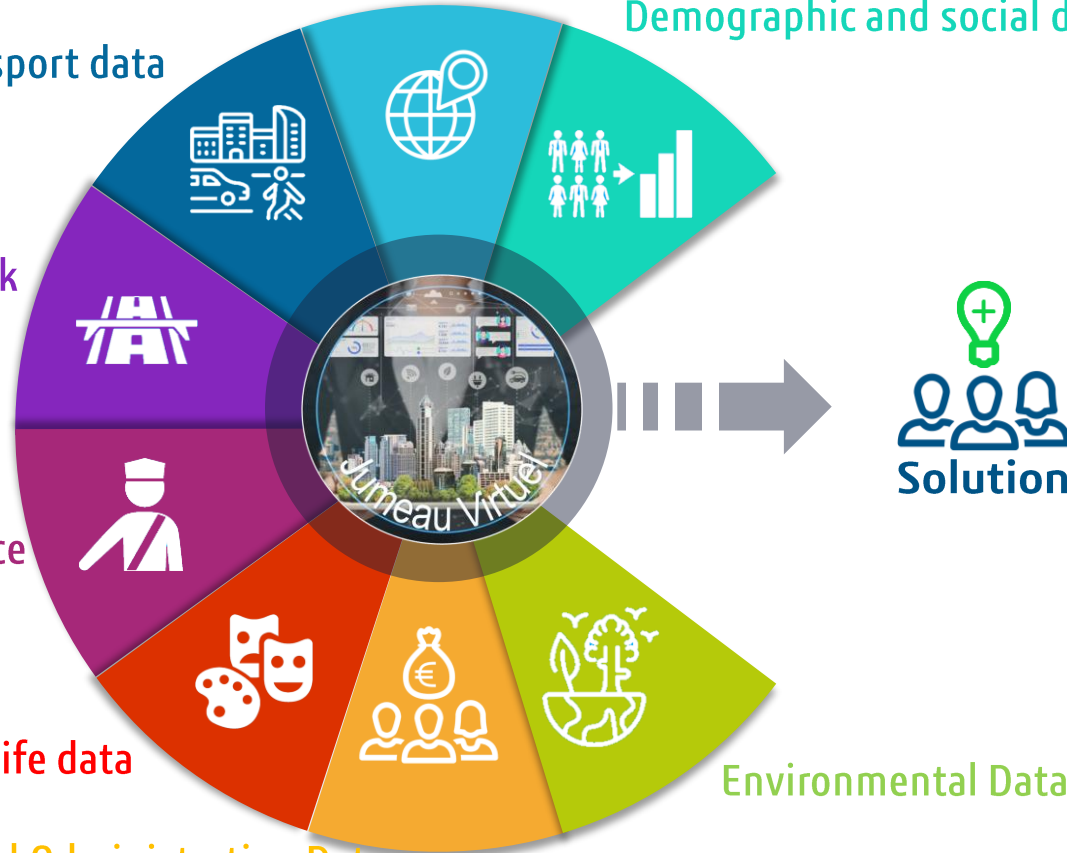
Infrastructure & network
data

Data security and resilience

Economic and cultural life data

Governance, Finance and Administration Data

Environmental Data

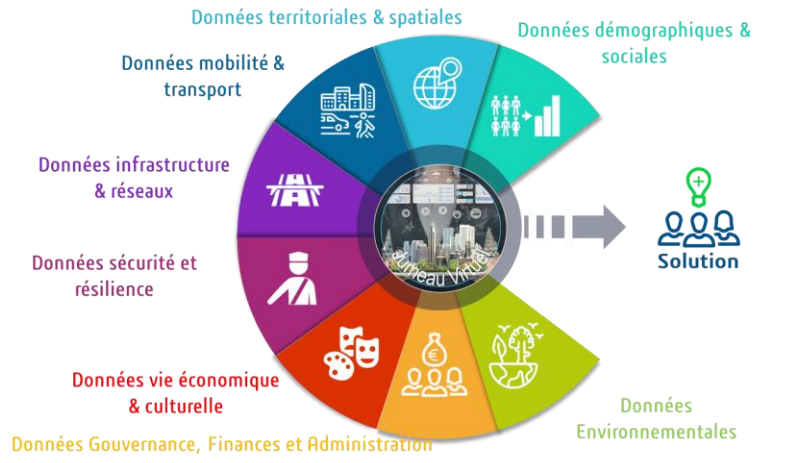



Solution

THE VIRTUAL TWIN: A STRATEGIC GOVERNANCE TOOL

The Virtual Twin enables:

- A clear and factual overview of the territory
- Support decision-making
 - Run What-If scenarios
 - Perform comparative study
 - Better anticipation of impacts
- Facilitating new project & policy monitoring and communication internal/external



USE CASE#1: MONCTON & DIEPPE CITIES



What possible urban densification strategies are available to manage rapid population growth and promote sustainable and affordable urban development for the cities of Moncton and Dieppe?



Jumeau Virtuel



The virtual twin made it possible to generate around a hundred urban design options for densification, of which three options were selected to assess the impact of densification on neighborhood mobility.

City Prepare

3D EXPERIENCE | City Prepare

Search

UNIVERSITE DE MONCTON - R113

City of Moncton Virtual Twin

Harmonizing Geospatial data

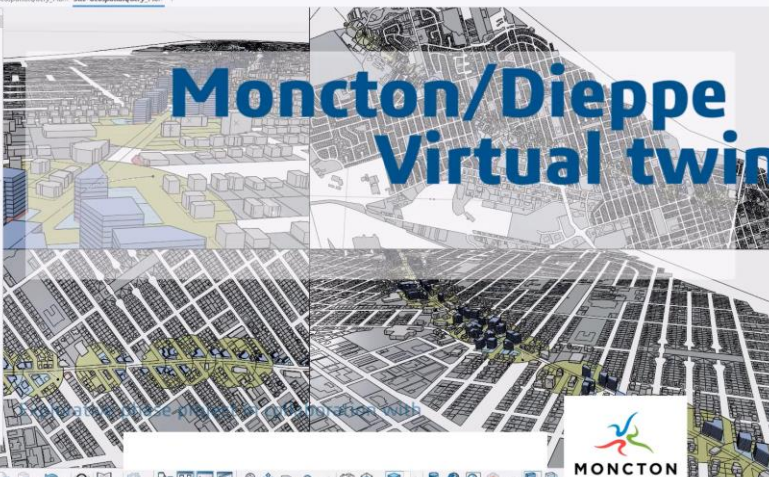
Exploratory stage Project in collaboration with




3D EXPERIENCE | CATIA Visual Scripting

Physical Product 00003479 Site GeospatialQuery_Main Site GeospatialQuery_Main

Moncton/Dieppe Virtual twin



MONCTON

MONCTON City Dashboard - 1

Google Imported From IE Imported DSC DS WEB_CHECK ULLY manifest.chrome... Adobe Acrobat

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Tableau de bord Experience Documents Communauté

RETVES - Data Perspectives - Moncton/Dieppe_Perspective

SIMULATION

SIMULATION 18

REDEVELOPEMENT

SIMULATION 18

BALANCE 18

SIMULATION 24

SIMULATION ...

Housing Densification Analysis

Visualizing, analyzing, comparing the three housing densification alternatives

Redeveloped Parcels & Buildings for Simulation 18

LOSS - Buildings

139

Color Mapping

16.5%

33.8%

44.8%

5.0%

Average Number of Storeys

2.62

Population Distribution by Building

Exploratory stage project in collaboration with





USE CASE #2: SOUTHEAST REGIONAL SERVICE COMMISSION

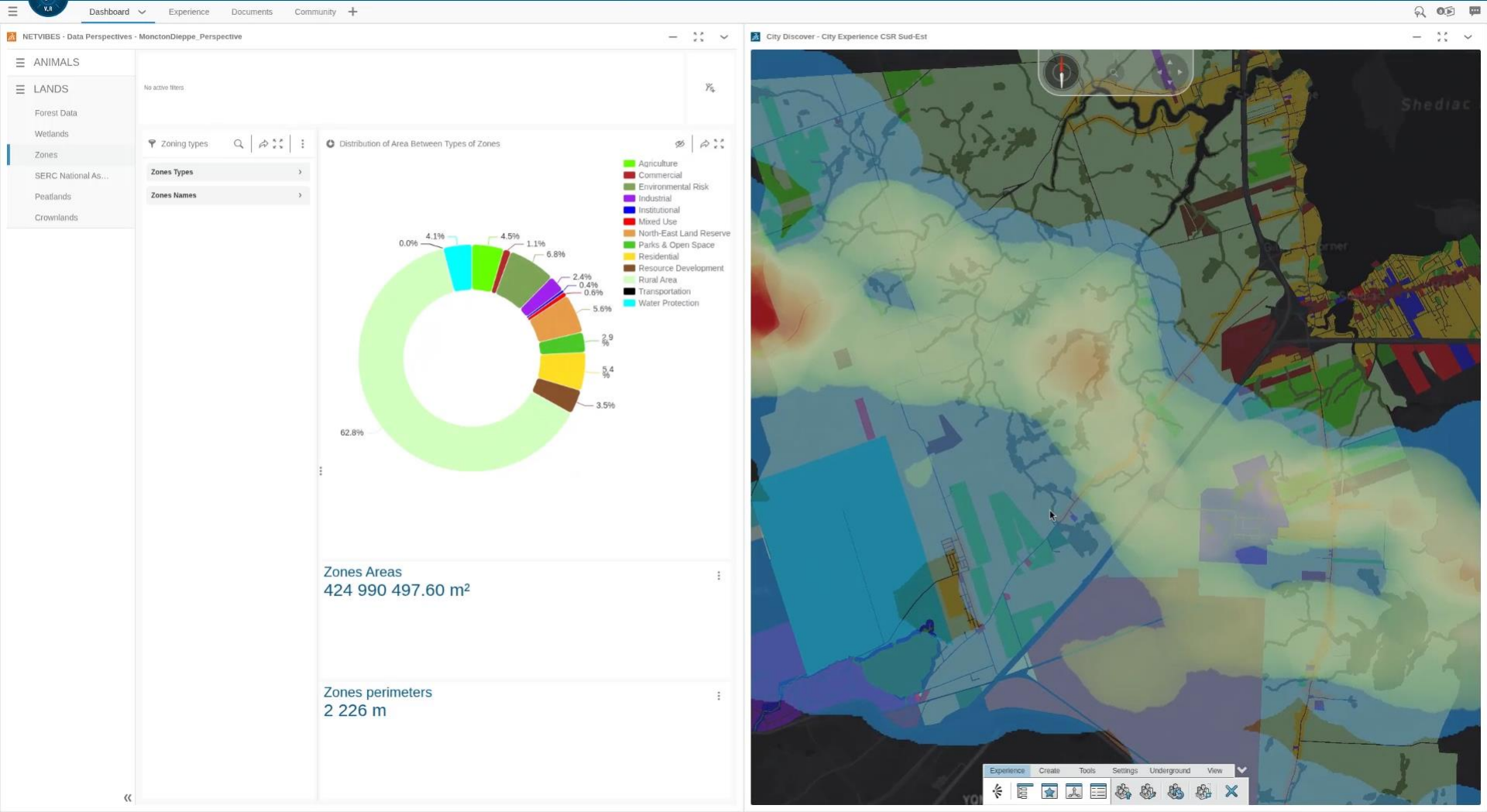


How to improve the preservation of the wildlife biodiversity corridor in the Chignecto Isthmus area of New Brunswick?



The virtual twin created a single repository by harmonizing multiple geospatial data sets, enabling:

- Modeling habitat suitability
- Generation of "least-cost" trajectories for terrestrial animal species
- Generation of wildlife corridors



USE CASE #3: UNIVERSITÉ DE MONCTON & CCNB



What is the situation of students at the University of Moncton regarding their access to housing as the number of students increases year after year and the rental market in Moncton & Dieppe becomes tight?



The virtual twin provides a better overview of the student situation regarding access to housing.



UNIVERSITÉ DE MONCTON
EDMUNDSTON MONCTON SHIPPAGAN





University of Moncton

Student Housing Strategy



MON UMONCTON

*Des services technologiques
pratiques et sécurisés*

Panel Discussion

Ahmed Zniber



Diego Cordero



Rémi Richard



Serge Doucet



Marc Melanson

