EU BIM TASKGROUP

WORKSHOP IX

BIM IN PUBLIC SECTOR PROCESSES: BUILDING PERMITS AND URBAN PLANNING

Tallinn, 26-27th February 2025

EUBIM TASKGROUP

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BIM IN PUBLIC SECTOR PROCESSES: BUILDING PERMITS AND URBAN PLANNING

THE WORKSHOP

WHY?

A response to the needs of our members to share their knowledge, experiences, concerns, and challenges related to implementing responsible digitalization in buildings and cities.

WHAT?

Practical experience, insights, case studies, concerns and challenges on the responsible digitalization for buildings and cities.

GOAL:

The workshop was designed to encourage participants to reflect on varios aspects of public sector porcesses, such as Building permitting, BIM&GIS integration and Digital twins.

WHO?

The workshop participants were 27 participants from 12 countries (Estonia, Czechia, Greece, Hungary, Finland, Germany, Latvia, Sweden, Italy, Switzerland, Ukraine and Spain).

THE OUTPUT IS INTENDED FOR THE ACHIEVEMENT OF COMMON GOALS

- A free market
- A transparent and non-discriminatory competitive
- Environment
- Efficient spending of public money
- Support fos digitalization
- The Green Deal
- Reducing the carbon footprint, etc

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FINDINGS

1. Across EU member states, building permit (BP) processes **share fundamental similarities**, providing a strong foundation for EU-level collaboration. Establishing machine-readable rulesets and structured data requirements is essential for streamlining these processes.

2. The practical implementation of BIM-based permitting can follow **multiple pathways**, reflecting the **complexity of integration** despite theoretical alignment across countries.

3. The challenges faced in BIM-based permitting **align closely with other areas of BIM implementation**, such as Common Data Environments (CDE), strategic planning, and change management. Education and capacity-building remain critical enablers.

4. Legal frameworks must be adapted to **facilitate automated rule-checking** and **BIM-integrated permitting**, ensuring compliance while enabling digital transformation.

5. While no BIM model is ever entirely accurate or perfect, structured models remain **highly valuable for decision-making** and **process efficiency**.

6. A strategic approach—starting with Proof of Concept (PoC), pilot projects, and Minimum Viable Products (MVP)—ensures **sustainable implementation**, balancing ambition with feasibility.

7. The **human factor**, including knowledge transfer, education, and structured change management, is **more decisive for success than technological advancements alone**.

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IDENTIFIED CHALLENGES AND PROPOSED SOLUTIONS:

1 RESISTANCE TO CHANGE

Challenge
- Many stakeholders are hesitant to adopt digital permitting processes due to unfamiliarity, perceived complexity, and concerns about disruptions to established workflows.

Solution
- To overcome resistance, it is crucial to highlight the tangible benefits of digitalization, such as efficiency and accuracy, while offering incentives and clear guidance. Structured training and engagement strategies will ensure smoother adoption.

2 LIMITED TIME AND RESOURCES FOR IMPLEMENTATION

Challenge
- Government agencies and municipal authorities often struggle to allocate time and resources for transitioning to BIM-based permitting while managing daily operations.

Solution
- Setting realistic goals and justifying small-scale pilot projects will help demonstrate the efficiency gains of digital permitting. A gradual rollout with clearly defined milestones ensures manageable implementation without overwhelming staff.

3 COMPLEX AND LENGTHY AUTHORIZATION PROCESSES

Challenge
- The permitting process involves numerous steps and stakeholders, making the transition to digital workflows seem cumbersome and difficult to standardize.

Solution
- A thorough review of current processes can identify opportunities for automation and simplification. Implementing standardized workflows and automated rule-checking will streamline approvals, reduce manual errors, and enhance efficiency.

4 SKEPTICISM TOWARD PUBLIC SECTOR-LED INNOVATIONS

Challenge
- There is often a mindset that public sector-driven technological initiatives are slow, impractical, or disconnected from industry needs.

Solution
- Engaging stakeholders early in the development of digital permitting platforms, maintaining open communication, and incorporating private sector input will foster trust and ensure practical, widely accepted solutions.

5 LACK OF RELIABLE DATA AND DOCUMENTATION FOR EXISTING BUILDINGS

Challenge
- Permitting and planning processes frequently rely on outdated or incomplete data, making digital integration difficult.

Solution
- A structured approach to data collection, including national standards for data management and digital archiving, will improve information reliability. Modern scanning technologies and systematic data updates will ensure accurate records for permitting.

6 DIFFICULTY IN IDENTIFYING INFORMATION NEEDS

Challenge
- Without clear national-level guidelines, municipalities and agencies struggle to determine what data should be collected and standardized for permitting.

Solution
- Establishing basic national standards for data collection and classification will create consistency and improve interoperability across different regions.

7 LACK OF MOMENTUM AND INNOVATION (STAGNATION)

Challenge
- Without financial or policy incentives, the transition to digital permitting can stall, leading to slow progress and inconsistent adoption.

Solution
- Financial support mechanisms, including targeted funding for municipalities and awareness campaigns about the long-term benefits, will encourage sector-wide adoption.

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IDENTIFIED CHALLENGES AND PROPOSED SOLUTIONS:

8 FRAGMENTATION IN DATA PRODUCTION AND STORAGE

Challenge
- The lack of standardized data formats and workflows across different municipalities and organizations leads to inefficiencies and compatibility issues.

Solution
- Adopting internationally recognized open standards, such as IFC, IDS, BCF, and data dictionaries such as bsDD, will improve data consistency and interoperability, ensuring seamless integration across jurisdictions.

9 INCONSISTENT TERMINOLOGY AND DATA DEFINITIONS

Challenge
- Different municipalities and stakeholders often use varied terminology and data structures, causing confusion and inefficiencies.

Solution
- Developing a national or EU-level data dictionary will standardize terminology and definitions, facilitating clearer communication and data exchange.

10 SCALING DIGITAL PERMITTING SOLUTIONS ACROSS MUNICIPALITIES

Challenge
- Many successful digital permitting implementations remain isolated, making it difficult to replicate them in other regions.

Solution
- Encouraging knowledge-sharing among municipalities, creating adaptable frameworks, and offering technical support will ensure scalability and consistency in BIM-based permitting across regions.

11 DEPENDENCE ON PROPRIETARY, CLOSED-SOURCE SOFTWARE (VENDOR LOCK-IN)

Challenge
- Using closed-source software limits flexibility, increases costs, and creates dependency on specific vendors.

Solution
- An EU-wide open-source digital permitting platform would provide cost-effective, scalable, and flexible solutions, ensuring public sector control over digital processes.

12 THE PUBLIC SECTOR'S LIMITED CAPACITY FOR SOFTWARE DEVELOPMENT

Challenge
- Governments often lack the resources and expertise to develop and maintain sophisticated digital permitting platforms independently.

Solution
- Making BIM-based permitting attractive to private sector developers through public-private partnerships will drive innovation while ensuring public sector needs are met.

13 LACK OF MACHINE-READABLE LEGISLATION

Challenge
- Legal texts and permitting regulations are often not formatted in a way that allows for automation or integration with BIM systems.

Solution
- Establishing procedures to ensure new laws and regulations are structured for digital compatibility will enable automated rule-checking and improve efficiency in permitting processes.

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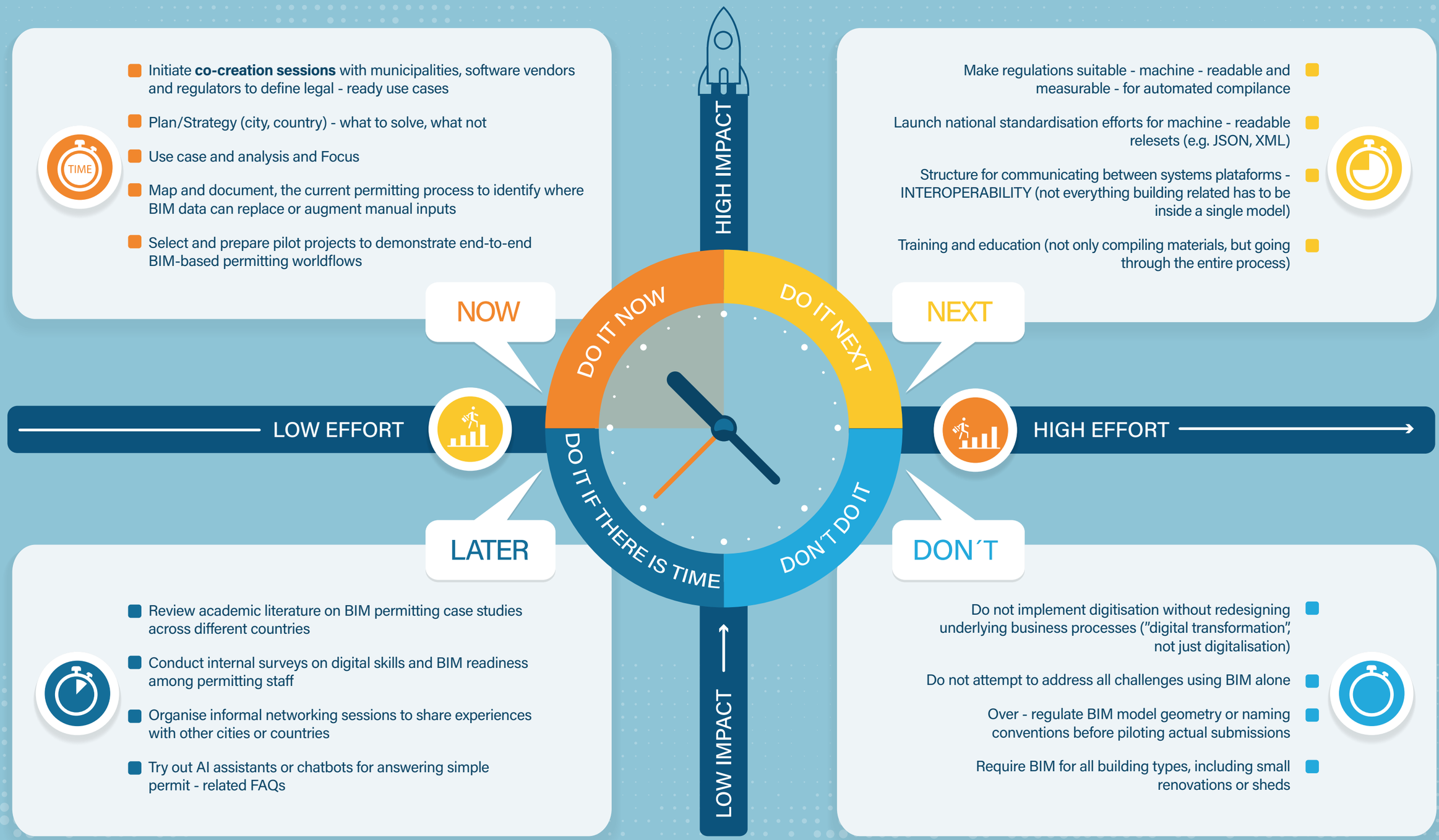
IMPACT / EFFORT MATRIX



NOW

- Initiate **co-creation sessions** with municipalities, software vendors and regulators to define legal - ready use cases
- Plan/Strategy (city, country) - what to solve, what not
- Use case and analysis and Focus
- Map and document, the current permitting process to identify where BIM data can replace or augment manual inputs
- Select and prepare pilot projects to demonstrate end-to-end BIM-based permitting worldflows

NEXT

- Make regulations suitable - machine - readable and measurable - for automated compilance
- Launch national standardisation efforts for machine - readable relesets (e.g. JSON, XML)
- Structure for communicating between systems plataforms - INTEROPERABILITY (not everything building related has to be inside a single model)
- Training and education (not only compiling materials, but going through the entire process)

LATER

- Review academic literature on BIM permitting case studies across different countries
- Conduct internal surveys on digital skills and BIM readiness among permitting staff
- Organise informal networking sessions to share experiences with other cities or countries
- Try out AI assistants or chatbots for answering simple permit - related FAQs

DON´T

- Do not implement digitisation without redesigning underlying business processes (”digital transformation”, not just digitalisation)
- Do not attempt to address all challenges using BIM alone
- Over - regulate BIM model geometry or naming conventions before piloting actual submissions
- Require BIM for all building types, including small renovations or sheds

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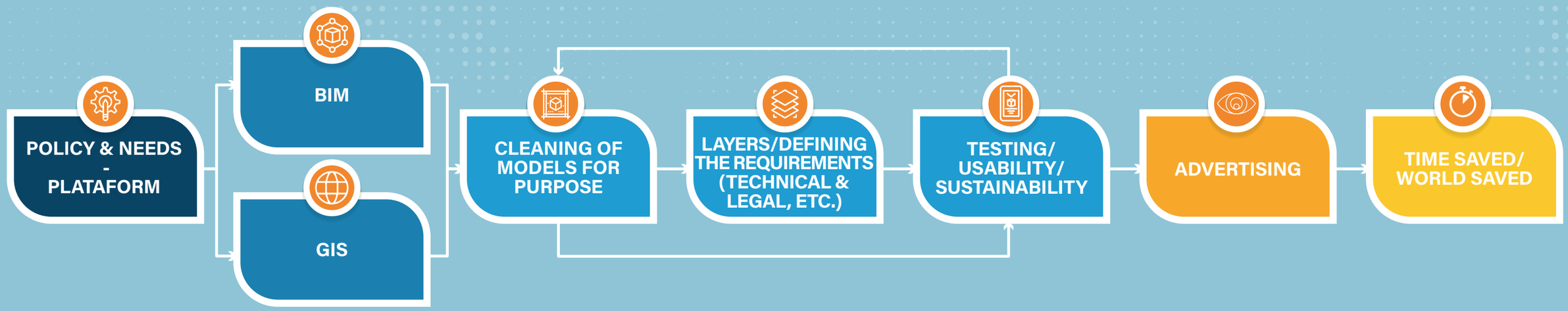
BIM AND GIS INTEGRATION FLOWCHART:



BIM PERMIT IMPLEMENTATION ROADMAP

0 - 6 Months	6 - 18 Months	18 - 24 Months	24 - 48 Months	48 + Months	Forever going
PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6
PLANNING	**PILOT PROJECTS**	**EVALUATION & COMMUNICATION**	**IMPLEMENTATION**	**OPERATION**	**IMPROVEMENT & NEXT STEPS**
Collecting data - surveys	Make the choice	Evaluate results vs goals	Involve more people, broader team	Maintenance	Evaluation
Defining needs	Define goals using KPis	Communicate to stakeholders	Definition of standardized processes	Check proces with stakeholders	New use cases
Defining requirements	Define technical solution	Internal training	Plan of acquisitions: software, hardware	Dissemination	Improvements
Establishing team	Verify the technical solution	Budget for next phases	Communication plan		
Initial budget	Produce the check rules	Plan of implementation	Roles & Responsabilities		
Legal issues	Measure the results	Evaluate team: competences			
Select a platform	Practical checking of the requirements				
1	2	3	4	5	6

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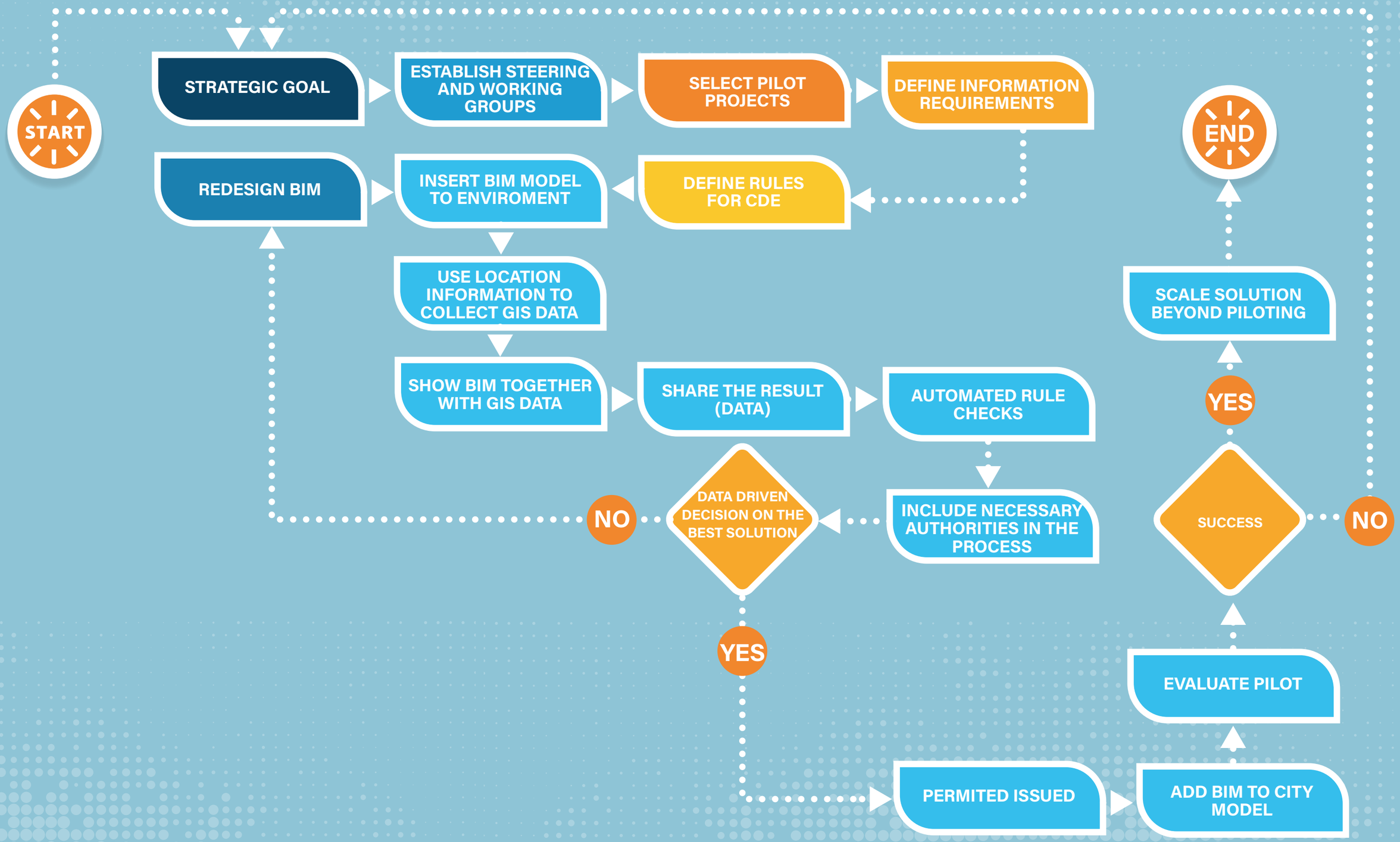
GIS SUPPORTED BIM PERMIT IMPLEMENTATION FLOWCHART



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CONCLUSIONS

1. The adoption of Open Geospatial Consortium (OGC) and OpenBIM (IFC) standards and principles is fundamental to **achieving interoperability** and a **sustainable digital framework** for BP processes.

2. AI-assisted automation can enhance the permitting process by **identifying and resolving errors** in architectural submissions while **supporting permit reviewers** in handling ambiguous cases. This contributes significantly to process efficiency and quality assurance.

3. Digital Building Permitting (DBP) should empower **professionals to focus on critical decision-making** rather than administrative tasks, ensuring technology is leveraged as a facilitator rather than a replacement for human expertise.

4. For countries with high levels of BIM adoption by the AECO industry, the **transition to BIM-based permitting** is within reach, requiring only a structured approach to

5. The establishment of a centralized, **open-source BIM processing engine at the EU level**—including non-EU partners such as Ukraine, Norway, and Switzerland—would provide a robust infrastructure for seamless integration and scalability.