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Türkiye's BIM Integration Workshop Report

Current state analysis, high-level strategic roadmap, and recommended next steps.

CATAPULT Connected Places

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Contents

1. Executive Summary

Connected Places Catapult (CPC), as the home of UK Government’s Digital Construction International Programme (DCIP) team, were commissioned by the Department for Business and Trade to support the Ministry of Environment, Urbanisation, and Climate change of Türkiye (MOEUCC) with the adoption of Building Information Modelling (BIM) methodologies within Türkiye’s construction sector.

This report outlines key recommendations to support the development of a National BIM Programme in Türkiye, recognising it as a multi-year transformation requiring coordinated action across government, industry, and academia. Based on current state analysis, international best practices, and stakeholder workshops, the report identifies that Türkiye is in the early stages of its BIM journey - transitioning from Justifying to Mobilising, as defined in the Global BIM Playbook. To support this, four core areas of action are recommended: Public leadership, Communication and communities, Capacity building, and Framework. Priorities include establishing a formal Digital Transformation Office with clear governance and resourcing; developing a national communication strategy to expand awareness and engagement; initiating BIM pilot projects to build capacity and capture lessons; and finalising a robust technical framework aligned with ISO 19650 standards. These recommendations aim to guide Türkiye through the structured stages of BIM transformation, both at a national and organisational level.

This report is the collaborative efforts of the following people and organisations, with an extended list of contributors available in the Appendix:

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2. Current State Analysis

2.1. Current high-level situation in Türkiye

2.1.1. Political environment

Türkiye operates under a presidential democratic system established in 2017, with the president serving as head of state. The nation is a member of international organisations such as G20, NATO and OECD. While its bid for European Union (EU) membership has faced challenges since 2018, Türkiye has ratified key agreements like the Paris Climate Accord and remains a strategic EU partner in areas such as migration, counterterrorism, public health, and climate (1).

2.1.2. Economic Environment

Türkiye, the 17th largest economy globally with a GDP of US$1.12 trillion in 2023 (2), is recovering from structural issues such as inflation, currency depreciation, and current account deficits (2). The country's economy grew by an average of 5.4% annually between 2002 and 2022. Inflation, which peaked at 75.45% in May 2024, eased to 44.38% by December 2024 as housing and utility prices stabilised (3). Unemployment fell from 9.0% in November 2023 to 8.08% in November 2024, though labour market pressures remain (4). Mixed performance in key sectors like exports and domestic consumption underscores the need for structural reforms to ensure sustainable growth (2).

2.1.3. Socio-cultural Environment

Türkiye’s population exceeds 85 million in 2023(5), with a significant portion residing in urban areas. The country boasts a young demographic, presenting opportunities for economic growth. Türkiye’s unique position between East and West has cultivated a rich multicultural society blending diverse influences. A significant young and urbanised population offers potential for economic development.

2.1.4. Technological Environment

Türkiye has advanced its technological infrastructure with initiatives focused on green transformation and digitalisation. Its Global Innovation Index ranking improved from 51st in 2020 to 37th in 2024, supported by the Ministry of Industry and Technology (6). In 2024, Türkiye launched its first domestically produced communications satellite, Turksat 6A (7), and commissioned its first quantum computer to enhance capabilities in data security, artificial intelligence, and defence (8). Regulatory changes have boosted adoption in telecommunications and renewable energy. However, limited investment in research and development and restricted private sector collaboration hinder global competitiveness.

Türkiye is prioritising digital transformation through initiatives like the "National Technology Initiative" and "Digital Türkiye" strategy, focusing on infrastructure,

innovation, and digital skills to boost economic growth, with key areas including e-government, digital economy regulations, and trends like e-commerce, fintech, AI, and IoT [9].

2.1.5. UK-Türkiye Trade Relationship

The UK and Türkiye maintain a significant trade relationship, with bilateral trade reaching £26 billion. Plans are underway to negotiate a modernised Free Trade Agreement covering services, digital, and data. The UK has provided over £3.6 billion through UK Export Finance for infrastructure projects, including high-speed rail and solar power plants The UK supports Türkiye’s climate resilience through $40 million in private sector funding for climate start-ups via the Climate Finance Accelerator, and contributions to the Mitigation Action Facility, which, alongside the EBRD and private finance, aims to generate over €100 million to decarbonise Türkiye’s cement industry. Scientific collaboration ranks among the top 20 globally for co-authored publications, supported by joint initiatives like the International Science Partnerships Fund, Horizon Europe, and EUREKA. Strong people-to-people ties are reinforced by British tourism and an active Turkish alumni network in the UK.

2.1.6. References: Current High-level situation in Türkiye

1. Türkiye - Consilium
2. Turkey Overview: Development news, research, data | World Bank
3. Turkey Inflation Rate
4. Turkey Unemployment Rate
5. Turkey Population
6. Türkiye Ranking in the Global Innovation Index 2024.
7. SpaceX launches Türksat 6A satellite, Turkey’s first domestically-built satellite – Spaceflight Now
8. Turkey Announces First Quantum Computer to be Unveiled at TOBB University of Economics and Technology
9. Türkiye - Digital Economy

2.2. Current state of construction sector in Türkiye

In 2023, Türkiye's construction industry contributed 6% to the nation's GDP and achieved a strong growth of 7.2%, despite contracting for the last five years [1, 14]. This change is partly due to reconstruction activities in the earthquake zones [14]. The construction industry in Türkiye employed over 1.5 million individuals in 2023[1]. In 2024 Türkiye’s GDP grew by 2.1%, with construction leading at 9.2%, driven mainly by sustained public spending and sector confidence [13, 14]. According to the Organisation for Economic Co-operation and Development (OECD) in 2021, women make up 28% of new entrants in engineering, manufacturing, and construction programs in Türkiye. As Europe’s largest cement producer and the world’s fifth in 2024 [2], reinforced concrete remains the predominant construction material in the country.

Since 1972, Turkish contractors have delivered 12,613 projects worth $542.3 billion in 137 countries [3]. The country's strategic geographical position, cost-effective services meeting international standards, and familiarity with regional business environments have positioned it second in the number of contracting companies undertaking the largest volume of projects globally outside their home countries for the tenth consecutive year [1, 4]. Most recently, 43 Turkish companies were listed among the top 250 international contractors in 2024 [5]. Limited number of domestic projects may have contributed to its international success. In 2023, Russia remained the Turkish Contractor Association's (TMB) largest market, followed by Romania, Turkmenistan and Saudi Arabia [3]. Turkish firms are preparing to participate in Ukraine's post-war reconstruction efforts.

The sector faces challenges from geopolitical risks and strong international competition, particularly from China. The Ministry of Trade supports growth through strategic market initiatives targeting high-potential regions (e.g. Sub-Saharan Africa, South America), financing tools, and international cooperation to enhance global competitiveness.

Despite existing building codes and regulations, deficiencies were observed even in newer buildings, indicating a need for stronger code compliance and oversight [6].

Türkiye has adopted green building practices through the Regulation on Green Certification for Buildings and Settlements, executed by the MOEUCC, and ranked 4th globally in 2023 with 36 LEED-certified projects [7, 8].

Turkey's construction sector is experiencing rising costs and restricted credit, with new building permits decreasing by 22.7% year-on-year in Q2 2024, including a nearly one-third drop in residential permits [9]. The 66% annual increase in construction costs, driven by higher material prices and labour shortages following the February 2023 earthquakes, has contributed to the decline [9].

2.2.1. Level of Digitalization

A study of Turkish construction professionals found that the adoption of “Construction 4.0 technologies” in Türkiye's construction industry varies by company size, market focus, and IT expertise, with larger and internationally active firms showing greater uptake [10]. The Turkish construction industry lags behind other sectors and countries in digital adoption due to high costs, skills shortage, resistance to change, weak leadership, and limited government support [11]. It’s fragmented and project-based nature complicates coordination, information sharing, and integration of systems [11]. Addressing these challenges requires stronger leadership, government backing, employee training, and tailored strategies to meet industry-specific demands and utilise technology effectively [10,11].

2.2.2. References: Current situation of construction sector in Türkiye

1. Turkish International Contracting Services
2. Triple Transformation in Turkey | World Cement (Türkiye'de Üçlü Dönüşüm | World Cement)

3. Genel Müteahhitlik Notu 02.06.2025 - Yurt Dışı Müteahhitlik Hizmetleri Genel Notu
4. Turkish contractors secure 2nd place in global construction rankings - Türkiye Today (Türk müteahhitleri küresel inşaat sıralamasında 2. sırayı elde etti - Türkiye Today)
5. Engineering News Record ENR Top 250
6. Turkey-Syria earthquakes: deficiencies in building structures and construction shortcuts were main cause of casualties | University of Cambridge (Türkiye-Suriye depremi: Bina yapılarındaki eksiklikler ve inşaat kısaltmaları, can kayıplarının ana nedeni oldu | Cambridge Üniversitesi)
7. The Top 10 Countries for LEED in 2023 demonstrate that the green building movement is truly global | U.S. Green Building Council (2023'te LEED alanında ilk 10’da yer alan ülkeler, yeşil bina hareketinin gerçekten küresel ölçekte olduğunu gösteriyor | ABD Yeşil Bina Konseyi)
8. Construction Insights | Turkey | DWF Group (İnşaat Sektörüne ilişkin İçgörüler | Türkiye | DWF Group)
9. Turkey’s construction sector battles costs and credit | AGBI (Türkiye inşaat sektörü maliyetler ve kredilerle mücadele ediyor | AGBI)
10. Application of Construction 4.0 Technologies: Empirical Findings from the Turkish Construction Industry
11. Barriers to the digital transformation process in the Turkish construction industry
12. HKA » Blog Archive Improving efficiency and productivity in construction projects with machine learning - HKA (HKA » Blog Arşivi İnşaat projelerinde verimliliği ve üretkenliği makine öğrenmesi ile artırmak - HKA)
13. TURKSTAT Corporate (TÜİK Kurumsal)
14. Türkiye Presidency Medium Term Program (2025-2027)

2.3. About the Ministry (MOUECC)

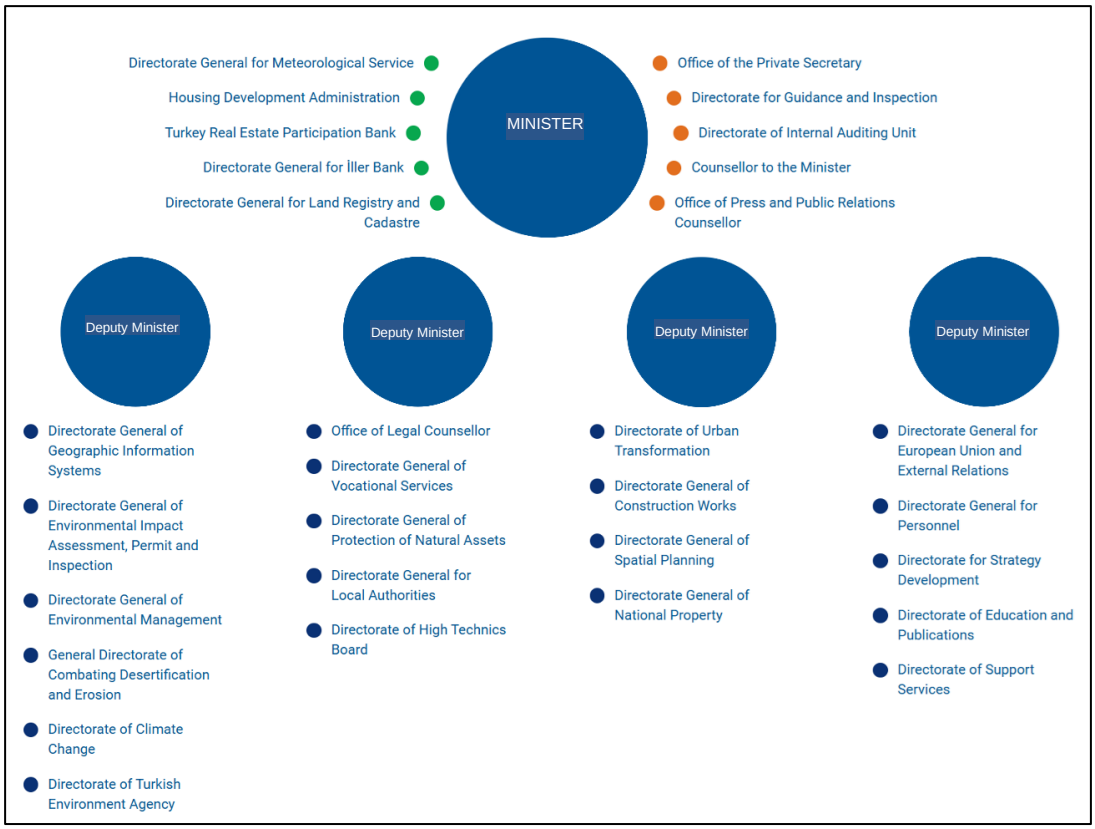
2.3.1. History

The ministry has evolved through the consolidation of multiple governmental bodies, starting with the Ministry of Public Works in 1934 and later incorporating the Ministry of Development and Housing in 1983. Environmental governance, initially managed by various bodies, was formalised through dedicated committees in the 1970s and as of 2011, merged into the current ministry to address environmental issues, urban development, and climate change under one framework.

Under the Presidential Government System, TOKİ (the Housing Development Administration of Türkiye), Emlak Katilim Bankasi A.S. (a public bank specialising in real estate), the Directorate General of National Property, and the General Directorate of Local Authorities have been affiliated with the ministry.

2.3.2. Organisation Chart

MOEUCC is one of Türkiye's 17 ministries, tasked with planning, transformation, development, property management, housing, and environmental sustainability to build sustainable cities [(1)].



2.3.3. MOEUCC Policies

Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (KKDIK)

- In May 2023, MOEUCC announced that all substances, mixtures, or articles subject to KKDIK registration must be assessed and registered by manufacturers or companies importing them into Türkiye [(6)].

Circular Economy

- The concept of a circular economy was incorporated into national legislation in 2020, with MOEUCC tasked with updating sub-legislation to support circular economy practices [(7)].
- MOECC’s had expanded wastewater treatment to cover 89% of the municipal population in 2022, aiming for 100% by 2023 [(7)]. Plans include reusing treated wastewater for agriculture, targeting a recovery rate of 15% by 2030 (up from 4.2% in 2022) [(7)].

Climate change

To support Türkiye’s 2053 Net Zero Target, several policies and initiatives have been implemented:

- In November 2024, Türkiye's Climate Portal, launched by the MOEUCC and United Nations Development Programme (UNDP) Türkiye with EU funding, is an online platform providing up-to-date climate data, policies, and tools for decision-making, collaboration, and awareness [(5)].

- In December 2021, shortly after COP26, MOEUCC convened Turkiye's first Climate Council, involving over 1,000 stakeholders from academia, government, and industry to shape national climate policies [8].

Decarbonise the Construction Sector

- In February 2022, MOEUCC amended the Regulation on Energy Performance in Buildings, introducing provisions to improve energy efficiency and encourage the use of renewable resources in buildings [11]:
    - As of 2023, newly constructed buildings with a total floor area of 5,000 m² or more must achieve an energy performance class of B or higher in the Energy Identity Certificate and meet at least 5% of their primary energy needs through renewable sources.
    - As of 2025, newly constructed buildings with a total floor area of 2,000 m² or more must achieve an energy performance class of B or higher in the Energy Identity Certificate and meet at least 10% of their primary energy needs through renewable sources.
- In May 2022, the MOEUCC’s National Green Building Certification System (YeS-TR) was introduced to evaluate and certify buildings and settlements based on a holistic, nature-compatible approach, considering the entire lifecycle, climate data, and the use of renewable energy resources [11].
- In March 2024, the Green Cement Regulation was introduced by MOEUCC to reduce carbon emissions by 11 million tons over the next decade, enhance energy efficiency, and promote green cement production. It focuses on utilizing alternative fuels, raw materials, and waste heat recovery, driving both environmental and economic benefits for the cement sector, while aligning with EU carbon regulations [4, 11].

2.3.4. Other Initiatives (past, present and future)

Within weeks of the 2023 earthquake, a presidential decree made the MOEUCC the sole decision-maker for new housing projects in earthquake-hit areas, aiming to expedite reconstruction and bypass certain laws and regulations [2].

2.3.5. Budgets and Spend

The 2024 - 2026 Medium Term Program allocated 1,028 billion Turkish Lira (3.6% of GDP) for earthquake recovery and reconstruction in 2024, with social housing focusing on high-risk disaster areas to ensure safe, resilient communities with integrated infrastructure [10].

2.3.6. Pipeline of Projects

TOKi

Established in 1984 under the Mass Housing Law, TOKİ (Housing Development Administration of Türkiye) aims to provide affordable housing for low- and middle-income families [3] . By 2002, it had built over 43,000 homes and supported nearly 1 million others. Following a financial model revision in 2001, TOKİ surpassed its 2007 goal of 250,000

homes, delivering 500,000 by 2011[3]. Since 2018, TOKi has operated under the MOEUCC. In 2023, ahead of national elections, the government announced one of Türkiye’s largest social housing projects, including 500,000 new apartments and 250,000 plots for reconstruction.

TERREP [9]

The World Bank supports MOEUCC in implementing Türkiye's Earthquake Recovery and Reconstruction Project’s (TERREP’s) Component 3 (rural housing reconstruction and capacity building) and Component 4.3 (project management, monitoring and evaluation for all implementing agencies). Project activities cover Adana, Adıyaman, Diyarbakır, Gaziantep, Hatay, Kahramanmaraş, Kilis, Malatya, Osmaniye, Şanlıurfa and Elazığ.

2.3.7. References: About the Ministry

1. T.C. Ministry of Environment, Urbanisation and Climate Change
2. Erdogan Allows Faster Quake Housing With Presidential Decree | Balkan Insight
3. TOKİ
4. Triple Transformation in Turkey | World Cement
5. Türkiye: First Climate Portal launched to accelerate climate action | PreventionWeb
6. Türkiye’s MoEUCC Publishes Amendment to the KKDIK Regulation | UL Solutions
7. https://www.eionet.europa.eu/etcs/etc-ce/products/etc-ce-products/etc-ce-report-5-2022-country-profiles-on-circular-economy/trkiye-ce-country-profile-2022_for-publication.pdf
8. Türkiye: First Climate Portal launched to accelerate climate action | PreventionWeb
9. EEPBP_ESMF
10. Türkiye Presidency Medium Term Program (2025-2027)
11. Turkish Law Blog - Türkiye’s Green Transition Journey and Effects on Construction Sector

2.4. History of BIM in Türkiye

Date	Event
2013[1]	Türkiye’s first public reference to using BIM, Emaar Square Mall, Istanbul
2014	Türkiye’s first public project requires BIM, Istanbul’s Metro Line (KMM)
2015[1]	Türkiye’s first hospital project to use BIM, Okmeydani Hospital, Istanbul
2016[1]	Türkiye’s first housing project to use BIM, AND Pastel Residential Complex, Istanbul
2017	BIM4Turkey founded
2018	Türkiye’s first airport project to use BIM, Istanbul Grand Airport
2019	Türkiye Chapter of buildingSMART founded
2020	TSI published ISO 19650 standard, Part 1, 2, 3, and 5

2021	Women in BIM - Türkiye founded
2022	TSI published ISO 19650 standard, Part 4

1. S. Toklu & S. G. Mayuk, (2020): The Implementation of Building Information Modelling (BIM) In Turkey

2.5. BIM Standards & Policies

While there are no nationwide BIM mandates in Türkiye, various ministries and municipalities have taken the initiative to develop their own requirements and request BIM within their specific contexts.

2.5.1. TS EN ISO 19650 Suite of Standards

The Turkish Standards Institute published the ISO 19650 standards, Parts 1 to 3 and Part 5, in November 2020, with Part 4 following in September 2022. While Parts 1 and 2 were translated into Turkish, the remaining parts remain in English.

2.5.2. Ministry of Transport and Infrastructure’s BIM Requirements

The Ministry of Transport and Infrastructure of the Republic of Türkiye published the BIM Technical Specification and Tender Documents in February 2021, with the latest revision in September 2022. These documents set requirements for BIM in transportation-related construction projects. The first section outlines additions to the Draft Contract, specifying bidder obligations, including the submission of a BIM technical support document. The second section defines BIM modelling standards tailored to the ministry’s needs, ensuring effective data and information management throughout the project lifecycle, in alignment with TS EN ISO 19650 (Parts 1 and 2). The specification incorporates Türkiye’s unique building practices and lessons from projects such as Istanbul’s Metro Line. A BIM Execution Plan template is included in the annex.

2.5.3. buildingSMART Türkiye’s Guidebook

buildingSMART Türkiye (bSTR) published the “Organising, Digitising and Managing Information in the Building Life Cycle” guidebook in August 2023, created by a joint working group representing stakeholders from across the project lifecycle, software suppliers, and supporting institutions. This is a comprehensive guide organised by the following sections:

1. Building Development Stages and Delivery Requirements
2. Digital Information Management in the Building Life Cycle process
3. BIM Technical Specification Guide for Employers and Operators
4. BIM Implementation Plan Guide for Contractors
5. BIM Roadmap for Material Manufacturers
6. Open Data Standards and Uses
7. Application Examples

The guidebook aligns with the TS EN ISO 19650 suite of standards.

2.5.4. Istanbul Metropolitan Municipality’s BIM Requirements in Rail

The Rail Department at Istanbul Metropolitan Municipality, in coordination with bSTR, introduced the “BIM Technical Specification for Rail Systems” in February 2024. The specification defines BIM requirements, targets, and stakeholder responsibilities across the design, construction and facility management (operation) stages. The contractor must submit a BIM Implementation Plan outlining their approach, methods, experience, and collaboration with the wider project team. They are responsible for establishing a qualified BIM team, ensuring information is stored in a Common Data Environment, and maintaining up-to-date project data. The specification references TS EN ISO 19650 (Parts 1 to 5), and other international BIM standards, including: TS EN 17412.01, TS EN ISO 16739-1 and TS EN ISO 29481 (Parts 1 and 2).

2.5.5. MOEUCC’s Smart City Application Guide

In February 2024, the General Directorate of GIS at MOEUCC published a BIM Application Guide as part of the Smart City Guidance Applications Project for institutions and organisations involved in smart city developments. The guide supports early-stage development, including feasibility studies and project design, and explains how BIM integrates with other smart city applications such as IoT, GIS, and point cloud data.

2.6. BIM Awareness and Capacity

2.6.1. BIM Adoption and Barriers

Although Turkey competes globally in contracting, it lags in engineering consulting, with foreign firms leading projects, representing a missed opportunity. This gap stems from outdate technologies for construction and disorganized project management [(1)].

BIM adoption and implementation is widely seen among contractors working on projects abroad. As early as 2016, interviews with Turkish AEC professionals and academics highlighted the widespread recognition of BIM benefits [(1)]. However, adoption in Türkiye remained slow, primarily due to the lack of a systematic approach, with progress driven more by individual efforts than by sectoral or regional strategies. The study revealed that BIM is largely seen as a new technology rather than a better way of collaborating [(1)]. It’s often viewed as applicable only to the design phase rather than the entire project lifecycle and is typically applied only to key project elements due to the time required for full design integration [(1)]. In practice, drawings are typically converted into 3D models rather than created as models first, with each discipline working independently [(1)]. Most architects face challenges due to the varying procedures of each municipality and the non-standard submission processes for drawings. Other barriers to BIM adoption in Türkiye include resistance to change, limited number of BIM experts, and high initial costs [(1)].

A 2023 study reviewed 45 literature sources and validated findings with practitioners from 18 Turkish construction project, identified availability of experience-based knowledge at

organisational-level and industry-wide change process problems as the main barriers to BIM adoption in Türkiye [2]. Another 2023 study, based on a literature review and a survey of 35 BIM experts in Türkiye, found that these barriers differ between the design and construction phases and should be addressed separately [3]. The key barriers, ranked by impact, were:

- **At design phase:**
  1. Lack of understanding and awareness
  2. Increased costs related to adoption, software, implementation, and design
  3. Reliance on traditional practices and standards
  4. Variability in implementers' skills and usability issues
  5. Low investor/ building owner awareness and market demand

- **At construction phase:**
  1. Perception of increased workload
  2. Lack of understanding and awareness
  3. Resistance to change
  4. Variability in implementers' skills, usability issues, and lack of training
  5. Reliance on traditional practices and standards

In the private sector, many international Turkish contractors have set up BIM centres both domestically and abroad, employing a substantial number of engineers and technical staff. Additionally, several construction companies, operating locally and internationally, are working to integrate BIM into their teams through workshops and training programmes [1].

2.6.2. BIM4Turkey

BIM4Turkey is a private sector-led initiative, established in November 2017, bringing together academia and industry to develop BIM awareness and capacity. The community has organised 125 events and 15 workshops, attracting over 12,000 attendees to date.

BIM4Turkey has hosted a BIM Summit annually since 2020, comprising exhibitions, conferences, panels, symposiums and workshops.

In 2023, BIM4Turkey established and supported BIM4Azerbaijan, recognising Azerbaijan as a sister country. The first summit was held in Baku in September 2023.

2.6.3. buildingSMART Turkey

buildingSMART Türkiye (bSTR) was established in December 2019 to promote widespread use of openBIM and digital applications in Türkiye’s construction sector.

> **Vision:** A Turkish construction sector with a shared understanding and unified methods for creating, sharing, and updating data to improve business processes across all stakeholders throughout the building lifecycle.
>
> **Mission:** To create an open collaboration and communication environment, ensuring all construction industry stakeholders work with open standards, collaborative processes, and unified practices, while contributing to

buildingSMART International and supporting its members through learning opportunities and best practices.

2.6.4. Women in BIM Turkey

Women in BIM Turkey, established in January 2021 as part of a global network, aims to enhance collaboration and provide support, empower, and recognise all female professionals in the Turkish construction industry. In August 2024, they hosted their first online networking event to discuss the initiative, career paths, and future plans for Türkiye.

2.6.5. References: BIM in Türkiye

1. Building information modelling roadmap strategy for Turkish construction sector
2. A systematic approach to investigate BIM implementation in Turkish construction industry
3. BIM (building information modeling) in turkey factors preventing adoption investigation

3. Stakeholder Engagement Outcomes

3.1.1. Stakeholders Engaged

Three stakeholder engagement workshops were carried out including the public sector, private sector and academia including a total of 92 stakeholders that engaged in the workshops.

For the public sector, 38 stakeholders participated including representatives from Metropolitan Municipalities, MOEUCC, the Turkish State Railway, Directorate of Highways, Ministry of Transport and Infrastructure and the Ministry of Health. For the private sector, 17 organizations participated including contractors, architects engineers and software vendors. Academia included 9 participants with 8 academic institutions from around Türkiye.

Public Sector	Private Sector	Academia
1. Ministry of Environment, Urbanization and Climate Change 2.Ministry of Transport and Infrastructure 3. Ministry of Health 4. General Directorate of Land Registry and Cadastre 5. General Directorate of Geographic Information Systems, Smart Cities Department, MOEUCC 6. General Directorate of Highways 7. General Directorate of State Airports Authority 8. TCDD (Turkish State Railways)	1. TAV construction 2. Autodesk 3. Ronesans construction contractor 4. SAINA consulting 5. EMAY consultancy 6. Turner construction company 7. ACE Architecture 8. ProCS Engineering 9. Ronesans Construction 10. NKY Architects & Engineering 11. SAINA Consulting & Engineering 12. Prota Engineering 13. EMAY International Engineering and Consultancy Inc	1. Istanbul Technical University 2. Middle East Technical University 3. Antalya Bilim University 4. Mimar Sinan Fine Arts University 5. Bosphorus University 6. İzmir Institute of Technology University 7. Karadeniz Technical University 8. Hacettepe University

Public Sector	Private Sector	Academia
9. Turkish Standards Institution (TSE) 10. İlbank A.S 11. TOKİ 12. Emlak Konut GYO A.S 13. Gaziantep Metropolitan Municipality 14. Konya Metropolitan Municipality 15. Istanbul Metropolitan Municipality 16. Altındağ Municipality	14. Dorçe Prefabricated Building and Construction 15. Aluplan Computer Program Systems 16. Bimsoft Software Technologies 17. Yüksel Project	

3.1.2. BIM Stakeholder definitions

To start off with, we asked both the private sector and academic stakeholders how they would define BIM to get an understanding of what BIM means to stakeholders in Turkey and to see if there is a common understanding. Below is a summary of definitions that were provided.

For the private sector BIM is:

- Use of technology and workflows to **define good outcomes**
- **A digital process** for designing, constructing and operating built **assets throughout their lifecycle**
- The management of data **graphically** and **non-graphically**
- Helps make buildings more constructable
- An **information management system**, a holistic approach that connects technologies, methodologies, people's knowledge and workflows. It is the production of construction and design with information supported databases and procedures.
- A sustainable **management process and management strategy**, production of BIM execution plans and use of CDE platforms.
- A coordinated digital model to help **across the lifecycle of buildings**.

For academia BIM is:

- Being able to **exchange digital information** and use digital information
- Digital versions of **building components in the lifecycle**

- The social and technical systems in place to **increase information sharing amongst construction professionals.**
- Developing **shared digital models** of a built asset to manage it effectively **throughout its lifecycle**
- A way to help **prototype** a building **throughout its lifecycle**.
- Using a **common language** between stakeholders.
- The creation and management of **digital data** for the built environment **and full lifecycle**.

3.1.3. Strengths and weaknesses from stakeholder engagement

The following insights have been extrapolated from the stakeholder engagement activities to draw out the current weaknesses of BIM adoption in Türkiye. These have been grouped into key themes.

3.1.4. Weaknesses:

Weakness	Stakeholder insights
Lack of standards to define BIM, specified by Government	• Need standards requiring BIM, there needs to be a definition of what that BIM means, the required processes and what needs to be different. • One thing is standardization supported by the government, there should be a BIM mandate supported by the government. • There is not a coordinated way to introduce BIM with individual efforts in different agencies with a need for a common roadmap to align
Industry experience	• the inexperience of the construction people, they do not have much knowledge especially implementation. • Since it is not mandatory, many may don't find it beneficial to use BIM locally as they can't find sub-contractors that can use BIM • Need for greater competence and an understanding of BIM standards and procedures. • Biggest barrier to BIM in Turkey is the number of qualified people that have BIM capabilities. There is not enough people in the market to apply BIM in all projects in Turkey. • Not many suppliers to implement BIM in the market. Private sector is ahead but the maturity is low in the public sector. Maybe some pilot projects exist but not aware.

Weakness	Stakeholder insights
	• Architects and engineers are lagging behind. • With not many companies using BIM, they charge a premium making costs high.
A desire for greater public sector leadership	• Weakness is public sector particularly municipalities, most are requesting print outs to work on processes. • It is the public sector that should be guiding the rest of the sector but it is in fact the opposite, it is the private sector driving it and making the action.
Trust of digital files:	• Public sector do not trust digital files to feel safe, you cannot get a printout of BIM, even printout of CAD files were bad. • Government needs to support with a legal framework, regulations is a big issue, people cannot trust if they use BIM, who is the responsible person for making revisions. Must take printouts and sign the drawings. • Going paperless is a barrier with the use of e-signatures not accepted
Lack of industry champions and added value of BIM	• Weakness, champions in the industry. Need to increase the awareness of the added value of BIM, what value would be gained from every architect and engineer, the real value they would get. • An Autodesk study highlighted 57% of construction leaders said BIM is necessary, with the rest saying not sure, with 21% saying BIM is not necessary or not needed.
Barriers to adoption amongst small and medium sized companies	• Several obstacles, one is the high initial cost especially for small and medium companies. They can still make money with their old way of working. • Smaller companies struggle with the cost of software, training and lack of access to international projects
Mandating alone is not enough, also need for training	• The public's role is important to mandate, but mandating itself is not enough, but also need training or how to reduce the cost of software. • One thing to improve BIM, training but not of individuals but the owners, the designers, the students, training at all levels.
Need for companywide change method,	• BIM is not a company-wide change in some big companies that are implementing BIM. Need a whole

Weakness	Stakeholder insights
not only adoption at a project level	methodology for change. There are some really good examples. The workforce need to be supported, trained.
Not understanding the value of BIM	• Investors think BIM is expensive and not necessary
Perception that BIM adds time to the design phase	• Stakeholders commented the design phase is very short with little time for BIM and a perception that BIM could slow down the construction process.

3.1.5. Strengths/opportunities:

- Many experts involved in the early days of BIM in Turkiye and many graduates with a young generation, enthusiastic about BIM
- Adoption of BIM on airport projects has been a good case study, gathering interest from the public
- Existence of voluntary organisations such as buildingSMART and BIM4Turkey.
- Energy efficient design, earthquake proof design and structural monitoring becoming very popular in Turkey which BIM can support
- International experience has increased BIM maturity, such as participating in BIM projects in the gulf region.
- Public sector large infrastructure projects like airports, hospitals, PFI projects and government projects has helped adoption.
- Large organisations and academia helping keep up with the current state of the art in BIM.
- Student community successful at using BIM, but many have moved to Europe

3.1.6. Opportunities to improve adoption of BIM in Türkiye

We asked stakeholders to name one thing that would improve adoption of BIM in Türkiye:

Opportunities	Stakeholder insights
Training	• Need for training, not for individuals but for the asset owners, the designers, students with training at all levels
BIM rising stars and grass-roots movement	• Creating a 'grass routes' approach to BIM adoption through young champions and 'rising stars' such as recent graduates

Mandate	• There are many that don’t want to spend the time on BIM with no time to do training. The one thing to that would change this is a mandate.
Need for a National strategy	• We need a national strategy – this would be very motivational not just for industry but also the academic side
Supporting graduates	• There is lots of effort in universities and NGOs, more effort should be put on architecture and engineering and making sure we have good graduates with sufficient background
Improving working between public, private and academia	• Mandates and incentives – support people on collaboration with better ways of collaborating between private sector, public sector and academia.

4. BIM Workshop Output

4.1. Introduction

The following section outlines the group activities and outputs from a two-day workshop held in the capital city of Türkiye, Ankara, on 4th and 5th February 2025, hosted by Banu ASLAN, Vocational Services General Directorate at MOEUCC.

4.1.1. Welcome Speeches

Buket Sağıroğlu opened the first day by welcoming participants and providing context. Gavin SUMMERSON, Built Environment Team Lead at CPC, introduced the programme, outlining UK expertise in infrastructure development through digital construction and referencing relevant UK projects. Deputy Minister Hasan SUVER expressed support for the programme and its alignment with the ministry’s objectives. Jill MORRIS, British Ambassador to Türkiye, provided an overview of the UK-Türkiye partnership, covering trade, climate resilience, scientific collaboration, and digital construction. She highlighted plans for a modernised Free Trade Agreement and continued infrastructure support through UK Export Finance, emphasising the Digital Construction Programme’s role in integrating UK expertise in BIM with Türkiye’s infrastructure strategy.

4.2. Objectives

4.2.1. Workshop Objectives

The two-day workshop aimed to establish a shared understanding of BIM and explore its adoption in Türkiye. Participants engaged in discussions to assess the current state, identify key challenges and opportunities, and develop a strategic roadmap for implementation. The workshop facilitated collaboration among key stakeholders, ensuring alignment on priorities and next steps.

4.2.2. Objectives of Participants

The workshop brought together public and private sectors, along with academia, to contribute insights based on their expertise, share experiences, and work together in shaping Türkiye’s approach to BIM adoption. Their role was to engage in discussions, provide feedback on challenges and opportunities, and help define a realistic and actionable implementation plan.

Day 1 objectives

- Establish a common understanding of BIM
- Assess the current state of BIM adoption in Türkiye
- Outline challenges and opportunities for BIM in Türkiye

Day 2 Objectives

- Define a vision for BIM, both internally and externally
- Develop a high-level concept roadmap for Türkiye’s BIM adoption.
- Prioritisation of short-term activities to accelerate implementation

4.3. Workshop Kick-off

Appendix A contains the list of workshop participants. Attendees were assigned to five tables, each including an academic to facilitate discussions and represent the table during group feedback sessions.

The workshop opened with a review of its objectives and expected outcomes for the two days before transitioning into presentations designed to establish a shared understanding of BIM within the group. It covered the relevance of BIM adoption in Türkiye, considering global, national, and project-level drivers. A definition of BIM was provided, along with a global perspective and an overview of the UK’s BIM journey. The session also introduced the programme’s methodology for digital transformation and included an overview of the current analysis conducted by CPC.

4.4. Exercise 1: SWOT Analysis of the Construction Sector

4.4.1. Overview and Objectives

The purpose of the first group exercise was to conduct a Strength Weakness Opportunities and Threats (SWOT) analysis of the construction sector in Türkiye. Building on the review shared earlier in the day by CPC, each group assessed the current state of the industry, identifying key factors and critically evaluating their placement within the four SWOT categories. The exercise allowed participants to add, refine, and debate points from the initial analysis, encouraging discussion on the challenges and opportunities at national, organisational, and project level. This provided a foundation for considering practical steps towards successful adoption.

4.4.2. Outputs

Table 4.1 compiles and organises the key factors affecting the Turkish construction sector within the four SWOT categories from all five groups.

Strengths	Weaknesses
• Strong digital infrastructure (E-Government, geospatial data) • Experienced workforce in digital transformation and construction • Strong legislative experience in drafting regulations • Availability of digital twin infrastructure • A BIM Application Guide has been published within the scope of Smart City Guidance Applications • Presence of globally competitive firms • Fast design and execution capabilities • Strong supply chain and adaptability • Cost-effective construction and ease of archiving	• Limited number of BIM experts • Accelerated project initiation process, leading to planning-production mismatches • Challenges in implementing and enforcing regulations • Low BIM awareness among professionals • Communication gaps and frequent project revisions • High IT infrastructure and software costs • Dependence on foreign software and lack of local alternatives • Regulatory gaps and delays in infrastructure development • Lack of institutional cooperation and multidisciplinary collaboration
Opportunities	**Threats**
• Large youth population with tech aptitude • BIM adoption enhances international competitiveness • Growth potential in Türkiye’s construction sector • 3D visual design minimizes errors and improves project understanding • Access to new funding sources and budget allocations • Development of local software solutions • Türkiye’s strategic geographical location • Increasing digitalization in the industry	• High software licensing and training costs • Resistance to change and digitalization • Economic uncertainty and credit difficulties • Cybersecurity risks and cyber espionage • Market monopolization and dependency on software licenses • High disaster risk due to seismic activity • Weak regulatory enforcement • Regional instability and weak institutional collaboration

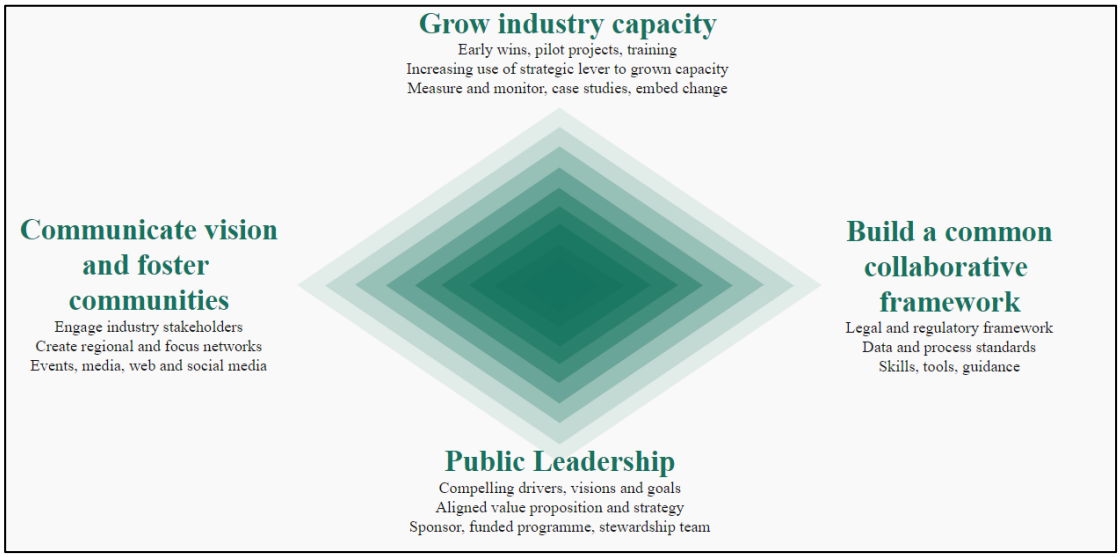
Table 4.1: Compilation of SWOT analysis established from all five groups.

4.5. Exercise 2: Strategic Framework for BIM Intervention in Public Sector

4.5.1. Overview and Objectives

Building on the SWOT analysis, this group exercise aimed to assess BIM progress in Türkiye and identify next steps across the four strategic areas:

- Public Leadership
- Build a common collaborative framework
- Communicate vision and foster communities
- Grow industry capacity



After an explanation of the exercise, the participants worked in their groups. Each group was asked to discuss and assign a score on a scale of 1-10 (1 low 10 high) where they see Türkiye is in each of these areas and describe why they think they are at that level. The group were asked to note which initiatives or activities have contributed to that score.

The exercise was divided into two parts. The first part focused on determining the current state of BIM adoption across the strategic areas, either in Türkiye or within the participants' organisations. The second part aimed to identify actions for improving the score in each area over the next year.

4.5.2. Outputs

Each table spent approximately 30 minutes first identifying the current state of BIM adoption and then a further 30 minutes defining the desired future state. This was followed by presentations to the wider group. Common themes emerged across the presentations, alongside some differing perspectives. While some groups expressed a more optimistic view of the current state, others set more ambitious targets for the future of BIM adoption.

See Figure 4.1 for an example of the exercise output.

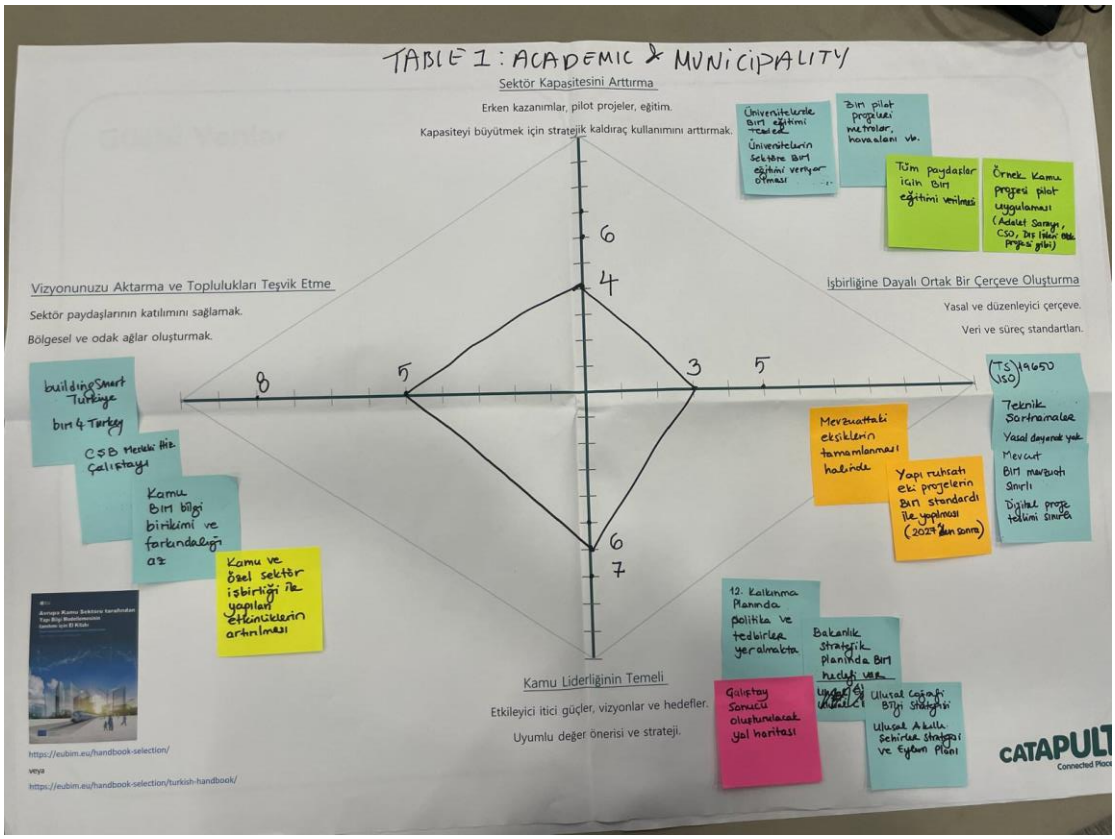


Figure 4.1: *The Diamond Framework populated by Table 1, illustrating the current state of BIM adoption in blue post-it notes. The future state is represented in various coloured post-it notes, differentiated by strategic area.*

Refer to Figure 4.2 for a summary of the scores assigned to assess the current state of BIM intervention in Türkiye. The average scores across the four strategic areas highlight strengths in "Communicate Vision and Foster Communities" and "Growing Industry Capacity."

Key evidence supporting the high score in "Communicate Vision and Foster Communities" includes initiatives such as buildingSMART Türkiye, BIM4Turkey, universities, and this workshop organised by MOEUCC. Similarly, the high score in "Growing Industry Capacity" is attributed to universities providing BIM training to students and industry professionals, as well as case studies published by companies.

Public leadership was also recognised, with supporting evidence including Türkiye’s 12th Development Plan, MOEUCC’s Strategic Action Plan, municipality-level initiatives, the Ministry of Transport’s Technical Specification, the National Geospatial Information Strategy, and the Smart Cities Strategy and Action Plan. It was noted by several that there was no BIM vision publicised.

The lowest-scoring area was "Build a Common Collaborative Framework," despite existing efforts such as the partially translated TS ISO 19650 standards, guidance prepared by BuildingSMART Türkiye, the Rail System Specification, and a limited number of exemplar projects. The absence of a strong legal framework for enforcing BIM was noted as a key limitation.

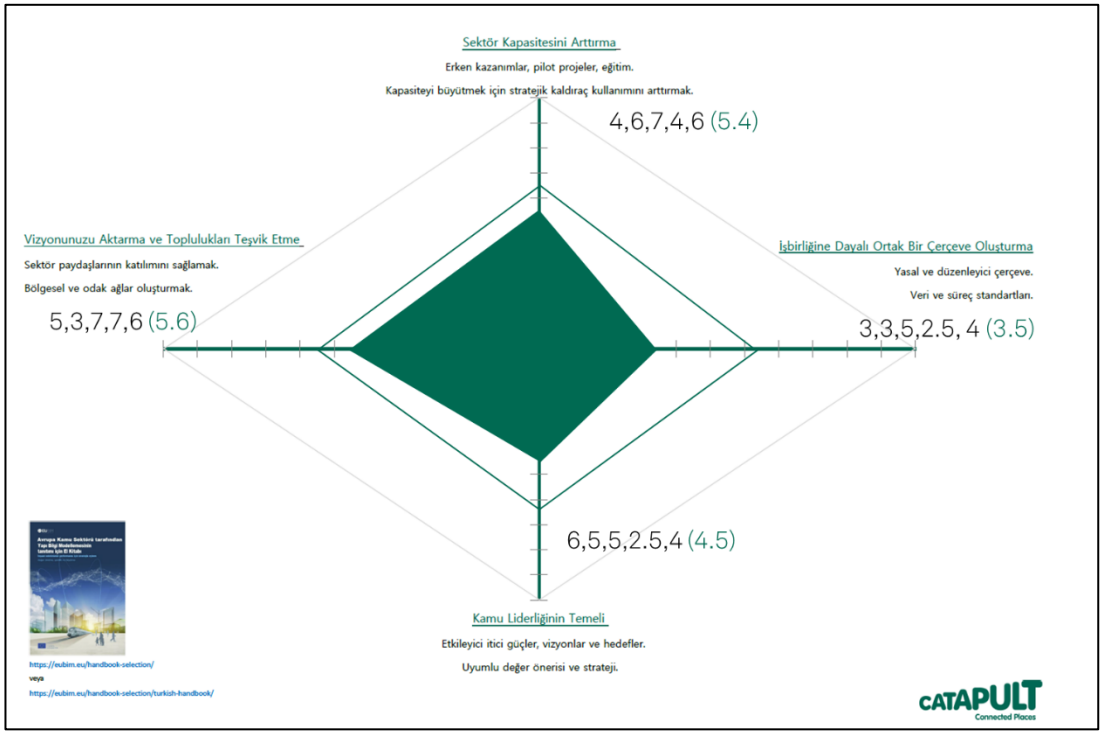


***Figure 4.2**: Consolidation of the scores assigned by each table to indicate where they currently see Türkiye is in each of the four strategic areas, alongside an average value denoted in green between brackets, and illustrated with the solid filled diamond.*

Refer to Figure 4.3 for a summary of the scores assigned to assess the anticipated state of BIM intervention in Türkiye over the next year. The average scores across all four strategic areas increased, reflecting a shared view among participants that progress can be made to enhance BIM adoption.

The largest increase was observed in “Communicate Vision and Foster Communities,” which rose by 1.8 points, followed by “Build a Common Collaborative Framework” and “Public Leadership,” both increasing by 1.7 points. The smallest increase was in “Growing Industry Capacity,” which rose by 1.4 points.

For “Communicate Vision and Foster Communities,” key examples supporting the higher score included initiatives fostering collaboration between public and private sectors, academia, professional institutions, and a national BIM summits.

For “Growing Industry Capacity,” several groups highlighted the need for more pilot projects and the expansion of BIM training to undergraduates and public authorities at both ministry and municipal levels.

For “Public Leadership,” discussions emphasised the need for a clear vision and roadmap to drive BIM adoption, recognising the significance of the current workshop. Improved collaboration between ministries was recommended, along with the establishment of an "umbrella" organisation similar to the UK’s BIM Task Force.

For “Build a Common Collaborative Framework,” suggestions included translating relevant international BIM standards, developing a regulatory framework for digital construction, and creating standardised BIM template documents. One group indicated

no expected change in this area, stating that significant progress within 12 months would be unrealistic.

All areas showed an increase of less than 2 points, suggesting a measured outlook on the potential impact of proposed actions, likely influenced by past experiences.

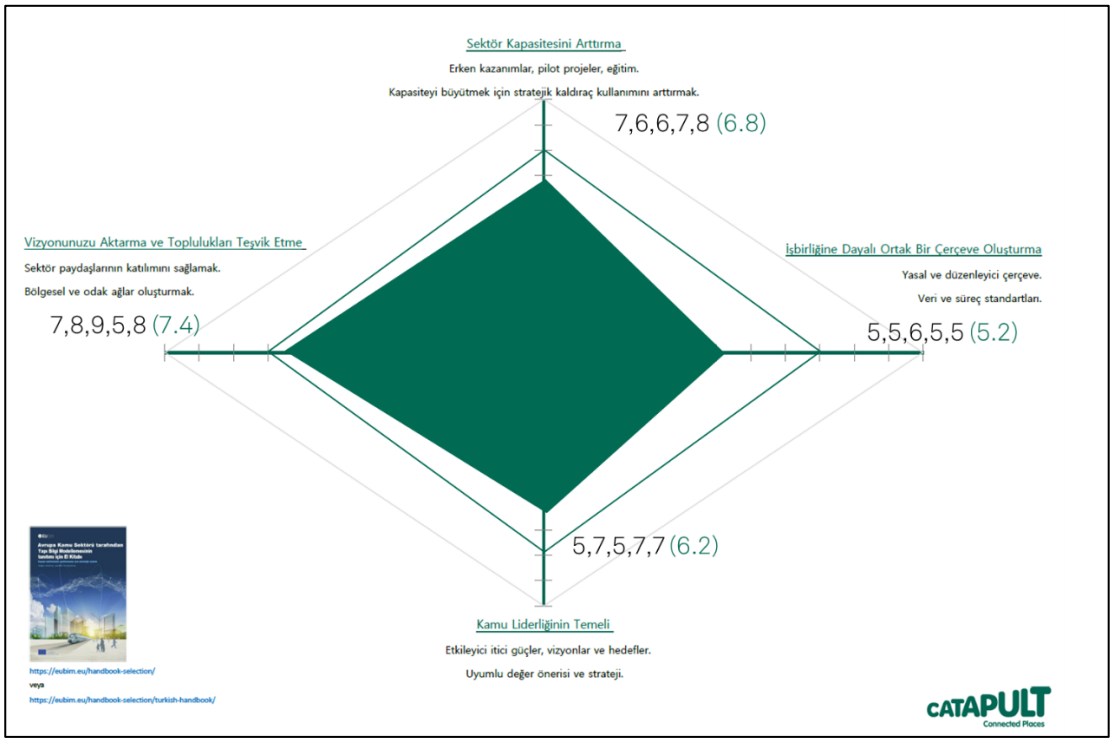


***Figure 4.3**: Consolidated scores from each group indicating their expectations for Türkiye's position in 1 year across the four strategic areas. The average value is shown in green within brackets and represented by the solid-filled diamond.*

4.6. Exercise 3: Strategic Principles and Setting the Vision

4.6.1. Overview and Objectives

The goal of this exercise was for each group to use the identified challenges and opportunities to define a vision for BIM adoption.

Working in groups, participants focused on the following strategic areas:

- **Challenges and opportunities**: Reviewing and refining the key challenges and opportunities for BIM adoption.
- **Vision:** Developing a clear vision statement for BIM implementation.
- **Ownership:** Identifying who will take responsibility for driving the vision forward.
- **Timelines:** Setting realistic timelines for achieving key milestones.
- **Goals:** Defining short, medium, and long-term goals with measurable metrics to track progress.

The exercise helped participants to begin establishing a structured plan, and thinking about roles, timelines and success criteria.

Exercise 4: Public BIM Intervention (Diamond Framework)

4.6.2. Output

The following is a list of the vision statements developed by each group:

- **Table 1:** “Adopting digital construction processes to increasing efficiency and prevent errors in the construction industry”
- **Table 2:** “BIM for sustainable and efficient Building lifecycle*”
- **Table 3:** “Establishing a Secure, Data-Driven, Efficient, and Sustainable Construction Ecosystem that can be overseen – BIM Türkiye”
- **Table 4:** “In construction industry, accelerating the digital transformation to achieve efficient, quality, sustainable, integrated, disaster-resilient built environment”
- **Table 5:** “Increase efficiency of construction sector*"

**Statement partially incomplete as it was not captured during the workshop.*

4.7. Exercise 4: Roadmap Development

4.7.1. Overview and Objectives

The objective of this exercise was to convert the insights from previous activities into actionable, time-bound steps that participants could implement following the workshop.

Building on the previous discussions, participants prioritised actions across short, medium, and long-term timeframes, focusing on the four strategic areas for BIM intervention. The exercise emphasised the need to define specific tasks for each area, set realistic timelines, and allocate the necessary resources to ensure the successful adoption of BIM. The goal was to align these activities with the overarching vision statement, creating a practical plan for moving forward and achieving the desired outcomes in BIM implementation.

See Figure 4.4 for an example of the exercise output.

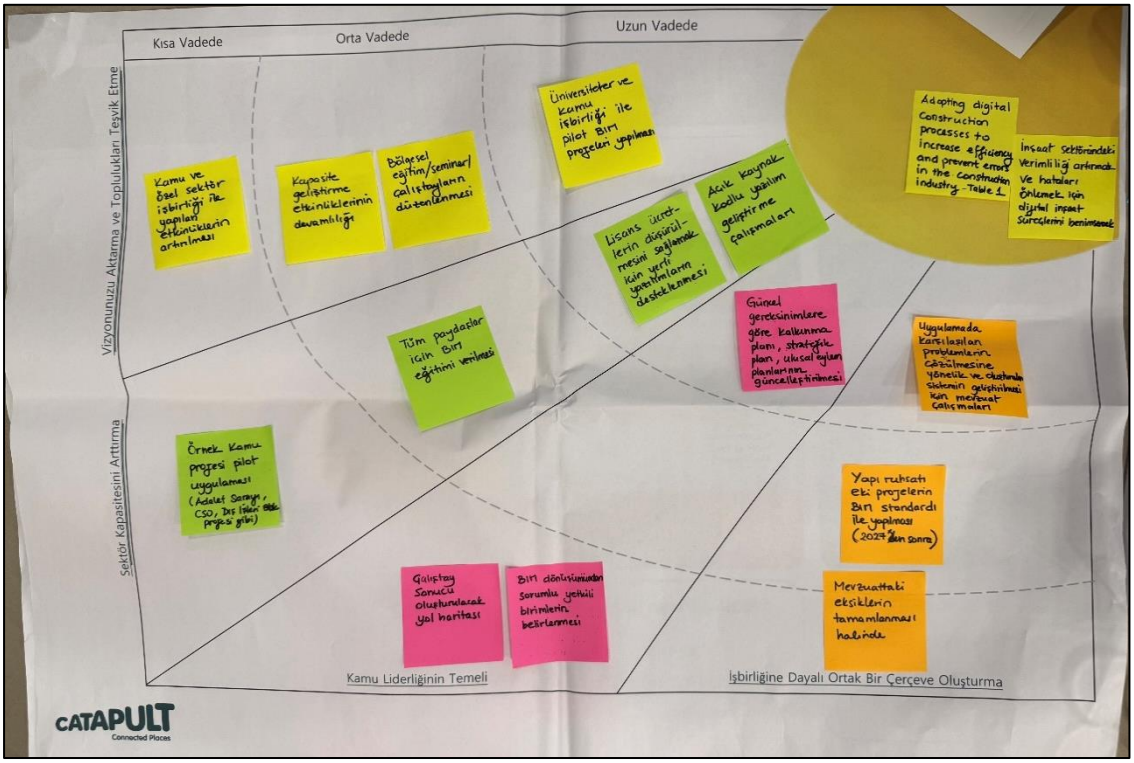


Figure 4.4: *Sunray diagram comprising roadmap activities and vision statement developed by Table 1.*

See the Appendix for a summary of participant responses, which informed the development of the roadmap, recommendations, and next steps outlined in the following sections.

4.8. Exercise 5: Short-Term Actions

4.8.1. Overview and Objectives

Finally, each group was asked to review the actions outlined in their roadmap and prioritise those that could be considered quick wins. The goal was to identify actions that could be implemented in the short term, delivering immediate value and momentum towards BIM adoption. By focusing on these quick wins, participants were encouraged to establish early successes, build stakeholder confidence, and create a foundation for more complex, long-term initiatives. This exercise aimed to ensure that the roadmap was not only practical and achievable but also capable of demonstrating tangible results in the near future.

See the Appendix for a summary of participant responses, which informed the development of the roadmap, recommendations, and next steps outlined in the following sections.

TÜRKIYE’S DIGITAL CONSTRUCTION VISION:

ACCELERATING DIGITAL TRANSFORMATION IN THE CONSTRUCTION ECOSYSTEM FOR A SAFE, EFFICIENT AND SUSTAINABLE BUILT ENVIRONMENT

5. High-level outline strategic roadmap

The workshop participants identified the action areas for Türkiye’s National BIM Plan across three phases: short, medium and long-term utilising the sun ray diagram, Figure 4.5. These 41 action areas are grouped into each quadrant of the Sun Ray including:

- Communicating the vision and fostering communities
- Grow industry capacity
- Foundations of public leadership
- Build a common collaborative framework

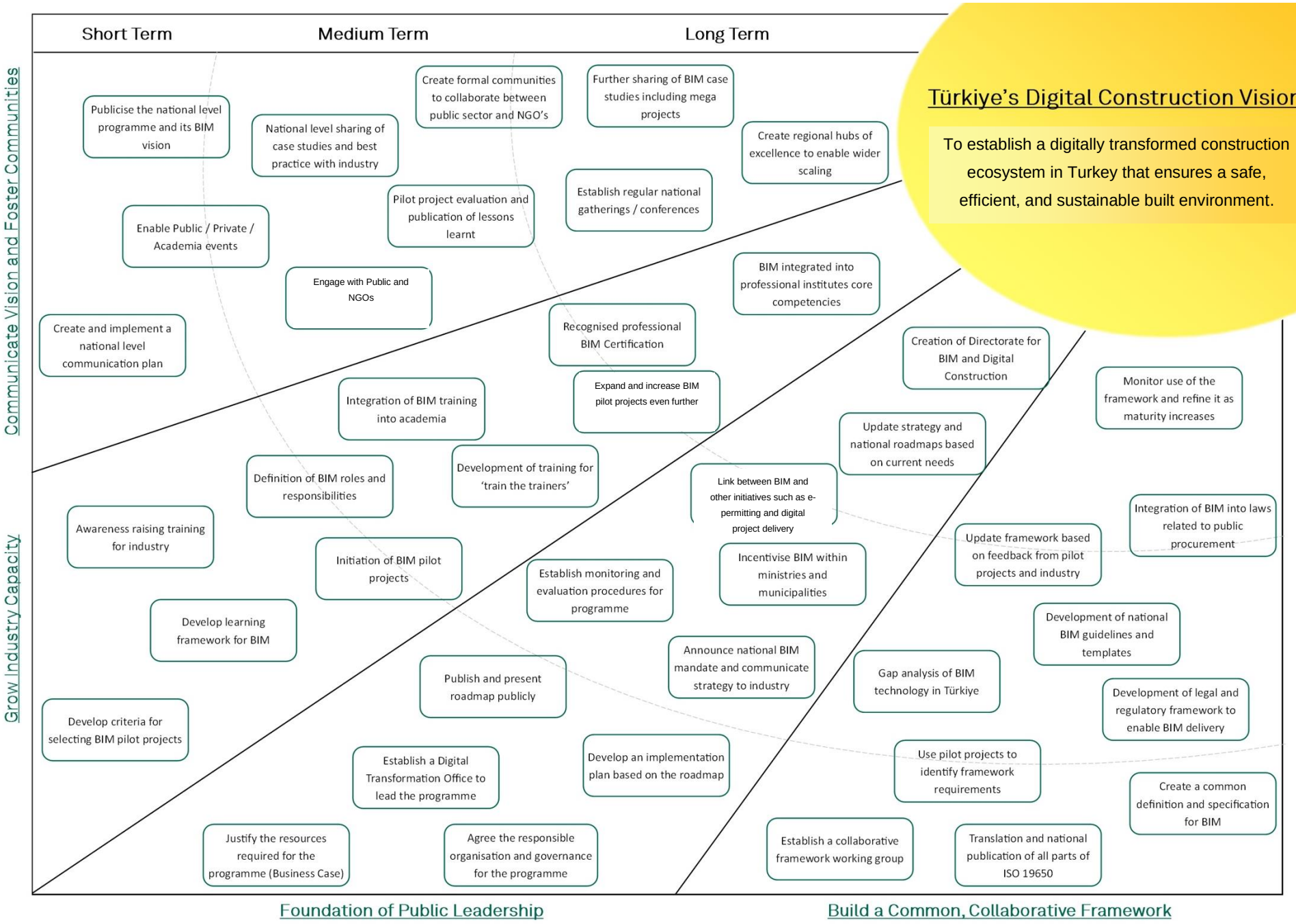
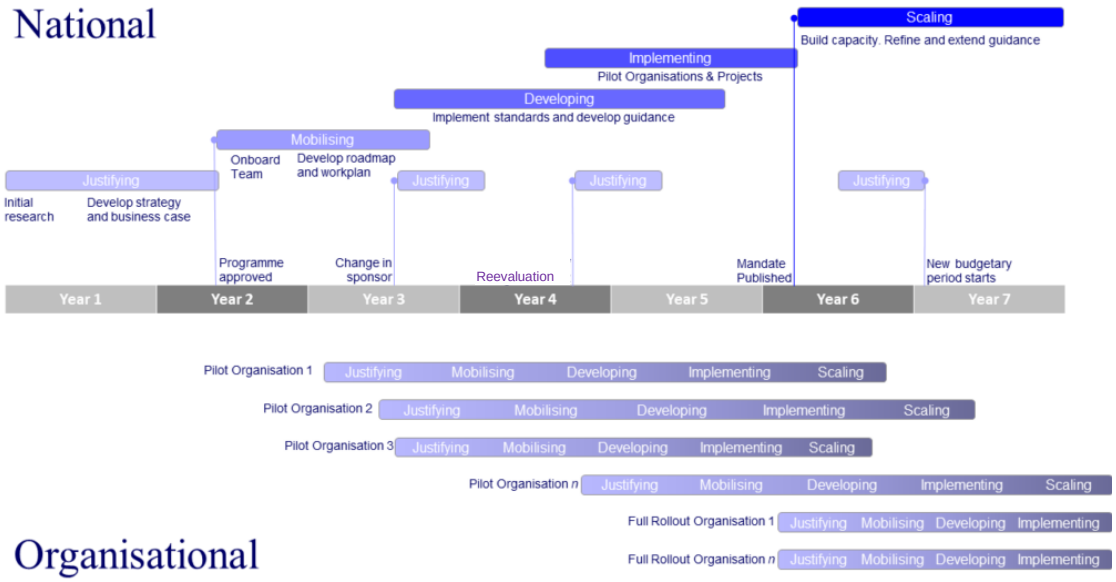


Figure 4.5 BIM High Level Roadmap

6. Recommendations

A National BIM Programme should be seen as a multi-year programme, given the scale of transformation needed across multiple organisations and supply chains. Given this, foundations for leadership are needed to ensure the team tasked with leading the change are equipped with the tools needed to progress the national BIM plan through is stages towards achieving the end goal. There are five states of transformation for national BIM programmes, moving from justifying to mobilising, developing, implanting and scaling. This occurs at a national level, but there is also a need to progress through these stages of change at an organisational level through each implementing organisation as illustrated below



In line with the High-level BIM roadmap as shown in the previous section the recommendations to Turkey from this engagement have been split down into 4 key sections, looking at the specific recommended activities which should be delivered relating to leadership, communication, technical and capacity building. The recommendations in this section of the report come from the output of the current state analysis and workshop activities from this phase of the work, as well as being informed by our experience and international best practices. Turkey is currently in the Justifying to Mobilising state of its transformation inline with the Global BIM Playbook and so recommendations have also been made based on the content and guidance of the playbook.

Our recommendations to support the National BIM Programme for Turkey are:

Public Leadership: Most importantly at the Justifying and Mobilising state of change is the need to establish a suitable team and provide this team with the resources and

support needed to ensure success. Usually this is the outcome of a business case to justify the resources needed but is also useful to consider the benefits and outcomes targeted by the programme so that these can be measured and reported on in the future. Providing a business case for BIM and the changes needed also helps to formalise the implementation setting clear goals and milestones which must be reported on to senior stakeholders.

In tandem with the business case for the transformation is the establishment and mobilisation of the team who will become responsible for leading and delivering the initiative. The stakeholders we have been engaged with during this phase of work have done a very good job in establishing an initial core team led by Buket and the ministry (MOEUCC). Our recommendation is that alongside the business case for the programme this team considers whether they have everyone needed to deliver all aspects of the change and that these resources have the available capability and capacity to deliver the requirements of the programme. In our experience the team should be formalised as a Digital Transformation Office and have 4-5 people with the capacity to deliver the several workstreams required.

Following the development of a business case and the development of the Digital Transformation Office the recommendation is to agree and formalise the governance for the team. This should outline how the team will work, the metrics and milestones of how the programme will be delivered. As part of this governance the programme should be broken down into several workstreams, we suggest that these workstreams are aligned with the 4 sections of the high level roadmap. Breaking down the change into workstreams should make it easier to manage and easier to allocate the resources needed to each activity. Each of these workstreams should then have a workstream lead and an implementation plan.

The final recommendation as part of the leadership workstream is for the Digital Transformation Office* responsible for implementing BIM to work on forming a relationship with the president’s digital transformation directorate and other similar and relevant initiatives which are being developed at the national level within Turkey.

Communication and communities: From this phase of the work it is clear that the team have already done a lot of work in developing a community for BIM implementation in Turkey and communicating the need for change as well as the benefits that BIM can bring. It was clear from the wide and varied attendance at the workshop event that a positive start had been made however it is our recommendation as well as the feedback received from the workshop that this is now expanded to an even wider audience. Specifically the communication around the BIM programme should be focussed on developing the vision for the programme and getting buy-in from a wider audience across the private sector, public sector, and academia.

*With Presidential Decree No. 183 published in the Official Gazette dated March 28, 2025, the Digital Transformation Office was closed, and the public authorities related to digital transformation were transferred to the Cybersecurity Presidency, established on January 8, 2025.

The development of a structured national level communication plan with objectives and time based milestones will help further develop the good work done to date and expand the reach of the programme into organisations and projects.

Capacity building: It is recommended that the national BIM programme starts to develop industry capacity as soon as possible by applying BIM into pilot projects. This application of BIM into pilot projects will help to raise awareness, develop the requirements of the technical framework and refine the requirements and outcomes for BIM. The first recommendation as part of this is to define the requirements for a BIM project and look at creating a set of selection criteria which can help to identify which projects should have BIM applied.

Alongside the identification of pilot projects using a set of selection criteria the programme should also begin speaking with potential pilot organisations who are able and willing to support the programme and begin to develop their capability and capacity. These organisations can then be sued as case study examples to further develop the adoption of BIM.

Framework: With work already underway in Turkey to translate and adopt the ISO 19650 suite of standards the first recommendation is ensure that this is completed with the final resulting standards publicised across industry as part of the communication workstream. In addition to this suite of standards a full and detailed gap analysis should be carried out to identify the gaps in the current framework for BIM adoption. It is likely that legal, contractual and other standards and guidance documents will need to be developed to work alongside the ISO 19650 suite of standards.

With the amendment made to the Regulation on Planned Areas Zoning, published in the Official Gazette dated 11 March 2025 and numbered 32838 by the General Directorate of Occupational Services of the Ministry of Environment, Urbanization and Climate Change, a provision has been introduced for the BIM-based digital submission and management of construction permit annex projects. This regulation, which will enter into force on 1 January 2027, is an important step towards initiating action in Türkiye.

In order to ensure success of this workstream and to get buy in and input from all stakeholders it is recommended that a dedicated framework working group is established with a suitable range of stakeholders from the public sector, private sector and academia. This working group would be tasked with creating the common framework (e.g. common BIM specifications / guidance documents and other required standards to support the ISO). It is also important that this working group interfaces with the pilot project to iterate the framework based on the real world project examples and pilot study findings.

7. Next Steps

Immediate next steps to take forward the recommendations.

To progress the next stage, there are a number of considerations that will need to be made to turn the roadmap into a set of actions that are implementable. We have put together a set of considerations for MOEUCC that will need to be considered as part of the immediate next phase:

1. **General considerations**
    a. Who will be responsible for each action within the roadmap?
    b. How will responsibilities be distributed between ministries, public agencies, and private sector stakeholders?
    c. What is the estimated level of effort (high, medium, or low) required for each strategic action?
    d. What will be the expected impact (high, medium, or low) of each action?
    e. How will success be measured for each initiative?

2. **Communicate Vision and Foster Communities**
    a. What communication channels currently exist for BIM awareness and adoption?
    b. What additional communication channels (e.g. workshops, webinars, online portals) need to be established to engage stakeholders?
    c. How will BIM-related information be effectively communicated to both public and private sector stakeholders?
    d. What change management strategies can be implemented to encourage BIM adoption across various industries?
    e. What digital platforms and tools (e.g. national BIM portal, knowledge-sharing forums) will be most effective in supporting the transformation?
    f. How can social media, industry events, and academic institutions be leveraged to promote BIM?

3. **Grow Industry capacity**
    a. How will the public and private sectors collaborate with academia to develop BIM competency within the workforce?

b. What steps are being taken to integrate international best practices into Turkish university curricula?
c. How will continuous professional development (CPD) programs be structured to support BIM upskilling?
d. What role will vocational training centres play in BIM skill development?
e. Have lessons learned from Turkish designers and builders been assessed and incorporated into the national BIM strategy?
f. How can knowledge-sharing platforms be created to exchange best practices among Turkish industry professionals?
g. What incentives (e.g., funding, grants, tax breaks) can be introduced to encourage BIM training programs?

4. Establish Public Leadership

a. What existing local and international BIM-related policies can be adopted or adapted for Türkiye?
b. What new policies need to be developed to facilitate BIM implementation in public projects?
c. How will governance structures be established and enforced to ensure BIM compliance in government projects?
d. What government agencies will be responsible for overseeing BIM adoption and implementation?
e. How will the national BIM vision and roadmap be documented and communicated to stakeholders?

5. Build a Common Collaborative Framework

a. What BIM Terms of References (ToRs) and technical specifications currently exist or are in development within Turkish public authorities?
b. What standardisation efforts are underway for BIM protocols in Türkiye?
c. Are there any existing legal and contractual frameworks in the public or private sector that could be adopted for BIM implementation?
d. How can BIM be integrated into public procurement processes?
e. Are there any international BIM standards (e.g. ISO 19650) being translated into Turkish, and what is their status?
f. How will interoperability challenges be addressed between different BIM software and platforms?
g. What frameworks will be used to ensure data security, intellectual property rights, and liability concerns in BIM projects?

8. Appendix

8.1. List of Workshop Participants

Refer to Table 8.1 for a list of workshop attendees.

TABLE NO	NAME	ORGANİSATİON	GENERAL DİRECTORATE	DEPARTMENT	ROLE TİTLE
1	Aslı Akçamete GÜNGÖR	Middle East Technical University		Faculty of Engineering,Department of Civil Engineering	Assist. Member
1	Bahadır ERİN	Hacettepe University		Construction Works and Technical Department	
1	Esra ÇINAREL KARAPAÇA	MOEUCC	Directorate General of Geographic Information Systems		CSB Asst.
1	Esra ERTUŞ	MOEUCC	Directorate General of Professional Services	Professional Regulation Department	Architect
1	İlknur TEKİN	MOEUCC	General Directorate of Construction Affairs	Project Department	Branch Manager
1	Murat Can ÜNLÜ	MOEUCC	General Directorate of Professional Services	Department of Building Research	Natural Building Systems Branch Manager
1	Selay DEMİRCİOĞLU	MOEUCC	General Directorate of Professional Services	Department of Zoning Regulation	Environment and Urbanization Specialist
1	Yasemin ALTINEL	MOEUCC	Directorate General of Professional Services	Department of Professional Regulation	Branch Manager
2	Ümit IŞIKDAĞ	Mimar Sinan Fine Arts University		Faculty of Engineering and Architecture,Department of Civil Engineering	Prof. Dr.
2	Dursun Yıldırım BAYAR	MOEUCC	General Directorate of Geographic Information Systems	Department of Smart Cities	Head of Department
2	Ekrem AYYILDIZ	General Director of Land Registry and Cadastre	General Directorate of Land Registry and Cadastre	Department of Mapping	Head of Department
2	Halil İbrahim ÖZBAK	İller Bankası A.Ş.		Project Department	Manager

2	Hilal BÜYÜK KÖKSAL	MOEUCC	General Directorate of Spatial Planning		Branch Manager
2	İ.Fehim ÇELİK	Emlak Konut G.Y.O A.Ş.	Real Estate Investment Trust	Project Department	Head of Department
2	İsmail KÜÇÜKBOZ	MOEUCC	General Directorate of Spatial Planning		Senior Engineer
2	Alper YILDIZ	Housing Development Administration, TOKi		Study and Project Department	Expert
3	Dr. Ahmet ÇITIPITIOĞLU	BuildingSmart Türkiye			Vice Chairman of the Executive Board
3	Eyüp Emre KASAP	Ministry of Transport and Infrastructure	Strategy Development Department	Department of Investment Management and Control	Transportation and Communicatio ns Specialist
3	Fatih DUMAN	Ministry of Transport and Infrastructure	General Directorate of Infrastructure Investments	Department of Urban Rail Systems	Head of Department
3	Fatih ŞEN	Ministry of Transport and Infrastructure	General Directorate of Highways		Data Coordination Management Engineer.
3	Gamze METE	MOEUCC	Directorate General of Professional Services	Department of Professional Regulation	Architect
3	Muhammet Göktürk ŞAHİN	Ministry of Transport and Infrastructure	General Directorate of TCDD (Rail Authority) Operation	Department of Studies and Projects	Branch Manager
3	Onur SINAYUÇ	Ministry of Transport and Infrastructure	General Directorate of State Airports Authority	Construction and Real Estate Department	Survey Project Branch Deputy Manager Architect
4	Esin Ergen PEHLEVAN	Istanbul Technical University		Faculty of Civil Engineering, Department of Civil Engineering	Prof. Dr., Civil Eng.
4	Ahmet Kutalmış KOÇOĞLU	Gaziantep Metropolitan Municipality		Department of Transportation UKOME and Transportation Planning Branch Directorate	M.Sc. Civil Engineer
4	Fulden HACİİBRAHIMOĞLU	Istanbul Metropolitan Municipality		Zoning Directorate	Architect

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4	Serkan EYİMAYA	Turkish Standards Institute			Civil Engineer
4	Setenay ULUDAĞ	Istanbul Metropolitan Municipality		Rail System Projects Department	Architect/Director
4	TUĞBA ŞEN	Konya Metropolitan Municipality		Zoning and Urban Aesthetics	Branch Manager
4	V. Aydın ÖNAL	MOEUCC	Directorate General of Professional Services	Department of Professional Regulation	Branch Manager
4	Yılmaz Emre SARIÇİÇEK	Public Procurement agency	Public Procurement Agency	Department of International Relations	Public Procurement Specialist
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5	Vedat TOĞAN	Karadeniz Technical University		Faculty of Engineering,Department of Civil Engineering	Prof. Dr.
5	Erdoğan YILMAZ	MOEUCC	Directorate General of Professional Services	Department of Professional Regulation	Engineer
5	Hüseyin Namık SANDIKCI	MOEUCC	General Directorate of Professional Services	Department of Energy Efficiency and Installation	Head of Department
5	İpek TETİK	MOEUCC	Directorate of Climate Change	Ministry of Climate change	
5	Nuran DANIŞMAN	MOEUCC	General Directorate of Professional Services	Department of Building Materials	Head of Department
5	Adem GÖLOĞLU	MOEUCC	Directorate General of Professional Services	Department of Building Research	Head of Department
5	Bülent YAVUZ	MOEUCC	Directorate General of Professional Services	Department of Professional Regulation	Branch Manager
5	Yıldız AĞAYA ÇAĞAN	MOEUCC	Directorate General of Professional Services	Department of Energy Efficiency and Installation	Architect

NAME	ORGANİSATİON	GENERAL DİRECTORATE	DEPARTMANT	ROLE TİTLE
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Buket SAĞIROĞLU	MOEUCC	General Directorate of Professional Services	Professional Regulation Department	Head of Professional Regulation Department
Özlem POLAT	MOEUCC	General Directorate of Professional Services	Professional Regulation Department	Branch Manager
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Arushan MAHENDRAKUMAR	Connected Places Catapult			Capacity Building Lead
Mike TURPİN	Connected Places Catapult			BIM Subject Matter Expert
Seyfi ÖZMAY	Department for International Trade			Trade Manager for Clean Growth
Yasemin BERTRAND	Department for Business and Trade, UK			Partnerships Lead
Kenndal TOMAS	Department for Business and Trade, UK			Infrastructure Exports: UK (IE:UK) Coordinator

8.2. Summary of Workshop Participant’s Inputs

Refer to Table 8.3 for a compiled and organised list of roadmap activities for BIM adoption from all five groups.

Strategic Area	Short-term	Medium-term	Long-term
Public Leadership	• Define BIM vision and mission for relevant ministries • Establish a BIM unit under the Presidential Digital Transformation Office* • Develop a BIM vision document	• Launch national BIM strategies and policies • Improve collaboration between ministries and municipalities • Provide incentives for BIM adoption	• Fully integrate BIM into national development strategies • Expand mandatory BIM adoption across sectors • Establish a national BIM data pool (TrBIM)
Build a Common, Collaborative Framework	• Translate TS ISO 19650 standards into Turkish. • Identify regulatory gaps • Review best practices and develop common BIM project specifications	• Develop legal and regulatory frameworks to support BIM. • Require BIM compliance for construction permits. • Establish a national joint data environment (JDE)	• Implement a fully integrated digital construction regulatory system. • Monitor, evaluate, and improve BIM policies
Communicate Vision and Foster Communities	• Announce BIM initiatives on digital platforms • Establish regional networks • Organise BIM-focused events, training sessions, and site visits • Facilitate public-private-academic collaboration	• Organise National BIM Summits • Develop a BIM portal for public-private communication • Establish regional BIM transformation offices • Strengthen collaboration among NGOs, ministries, and municipalities	• Institutionalise BIM events • Achieve 50% BIM adoption in medium and large-scale projects • Sustain long-term stakeholder engagement
Grow Industry Capacity	• Conduct BIM training for stakeholders • Launch pilot projects in public sectors (e.g., healthcare, transportation) • Integrate BIM training into university curricula	• Implement BIM certification for professionals • Expand pilot projects across key sectors • Establish structured BIM training for municipalities	• Establish national BIM software • Implement BIM certification for firms and professionals • Develop a multidisciplinary BIM training institute

Refer to Table 8.4 for the proposed short-term actions identified by each group for each strategic focus area.

*With Presidential Decree No. 183 published in the Official Gazette dated March 28, 2025, the Digital Transformation Office was closed, and the public authorities related to digital transformation were transferred to the Cybersecurity Presidency, established on January 8, 2025.

Table No		1	2	3	4	5
Public Leadership	**Who?**	MOEUCC	Directorate General of Vocational Services	Presidency Strategy and Budget Office	Digital Transformation Office*	A 5-person unit to be established within the Presidency Digital Transformation Office
	What?	Identifying the authorised units responsible for BIM transformation	Presenting the workshop outcomes to the Minister and relevant affiliated organizations, general directorates, and departments	Establishing a commission within the Grand National Assembly of Türkiye	Establishing a Digital Transformation Office and relevant BIM coordination team	Defining and establishing the management responsible for creating a national BIM vision
Build a Common, Collaborative Framework	**Who?**	MOEUCC, Directorate General of Vocational Services	Directorate General of Vocational Services	Ministry?	• Turkish Standards Institution (TSE) • MOEUCC	A joint working group (6–8 people) consisting of representatives from relevant ministries, municipalities, and universities
	What?	Formulating the necessary legislation for BIM implementation	Identifying public focal points	Creating a set of common model project specifications	Collaboration translation of ISO 19650 & creation and analysis of a pool of existing specifications	Exploring best practices and drawing lessons

*With Presidential Decree No. 183 published in the Official Gazette dated March 28, 2025, the Digital Transformation Office was closed, and the public authorities related to digital transformation were transferred to the Cybersecurity Presidency, established on January 8, 2025.

Table No		1	2	3	4	5
Communicate Vision and Foster Communities	**Who?**	Public sector, universities, NGOs, professional chambers	Ministry	MOEUCC	• Digital Transformation Office • MOEUCC	Presidency Communications Office and/or Presidency Digital Transformation Office*
	What?	Public-private-academia collaboration and capacity-building events	Public service announcement "BIM initiatives have started in Türkiye"	Private sector / public sector / universities Awareness raising + Information Summit	Communicating the vision through events and media	Sharing the National BIM Vision with relevant stakeholders (web, social media, public service announcements, etc.)
Grow Industry Capacity	**Who?**	Through collaboration between the public sector, academia, and private sector	Universities, NGOs, Directorate General of Vocational Services	Tubitak, Aselsan, Defence Industry Agency	DG Vocational Services and Digital Transformation Office	BIM associations, universities, corporate firms, professional chambers
	What?	Implementation of a public sector pilot project	BIM awareness training	Initiating efforts for software and hardware development	Sharing of different implemented projects (case studies) • Advantages • Challenges • Solutions + (workshop)	Training programs aimed at raising awareness

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