TOUSIF RAHMAN

Digital Transformation & Information Management Consultant

Implementation and Adoption | Information Systems | BIM | Digital Twins | Data Governance | ISO 19650
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PROFESSIONAL SUMMARY

Built-environment digital transformation specialist combining engineering knowledge with information systems, workflow development and technology adoption. Develops practical architectures and governance methods connecting project and asset information across teams and tools. Experience includes hands-on GeoBIM implementation, infrastructure digital twins, smart-building adoption research and internal platform coordination. Works with engineers, asset owners and technology partners to define requirements, develop workable solutions and build user capability.

ADVISORY & SPECIALIST EXPERTISE

- **BIM & Digital Engineering:** BIM Implementation, OpenBIM, IFC, IDS, Digital Twin, BIM-GIS-IoT Interoperability
- **Transformation and adoption:** Requirements, Implementation roadmaps, Stakeholder engagement, Training and Capability development.
- **Information and systems:** ISO 19650, CDE Workflows, Asset Information, Data Governance, Quality Checks And Engineering Data Integration.
- **Sectors & Delivery:** Infrastructure & Civil Assets, Smart Buildings, Public-sector Programmes, Multi-stakeholder Consortia

PROFESSIONAL EXPERIENCE

Scientist & Innovator | Mobility & Built Environment | TNO, Netherlands *Aug 2022 – Present*
Focus: Digital Transformation, Information Management & Technology Adoption

Worked across national and European programmes combining advisory, applied research and implementation with public-sector organisations, engineering firms, technology providers and SMEs.

- Developed the system and data architecture for the LoadMap Digital Twin with Rijkswaterstaat, integrating traffic-load datasets, bridge structural models and asset information to support monitoring and infrastructure decision-making. Ran validation sessions with RWS divisions and engineering consultancies including Arcadis, Witteveen+Bos, Movares and Royal HaskoningDHV.
- Assessed market uptake and business opportunities for smart-building technologies under **Brains4Buildings**, using stakeholder interviews and workshops with industry partners including SPIE, Philips, Unica and Deerns to identify adoption barriers, commercialisation pathways and standardisation priorities.
- Developed the Brains4Buildings privacy, security and ethics framework, translating technical, organisational and governance risks into practical guidance for responsible data use and digital resilience in smart buildings. Published as a public report, reviewed by Siemens and the Rijksvastgoedbedrijf.
- Supported the **European Commission's** Digitalisation of Construction SMEs initiative as trainer and technical expert, delivering workshops to 100+ SME representatives and contributing to the EU Digital Construction Handbook, digital-readiness guidance and technology-adoption training.
- Defined **ISO 19650**-aligned information structures, CDE workflows and data-governance requirements, including information-container states, metadata, naming conventions and data-quality approaches supporting traceability and interoperability across building and infrastructure programmes.

BIM & Information Specialist | Elea iC d.o.o., Ljubljana, Slovenia *Oct 2020 – Jul 2022*
Focus: GeoBIM, Information Management, Data Integration & Process Digitalisation

- Designed and developed GeoBIM as an end-to-end workflow for geological and geotechnical information, connecting contractor data capture and validation with database storage, engineering exchange, modelling and visualisation.
- Created approximately 29 field, laboratory and in-situ templates with validation logic, user instructions and ISO 19650-informed naming conventions for boreholes, trial pits, groundwater and soil and rock tests.

- Designed a 28-table PostgreSQL schema and SQL views for data correction, duplicate checks and repeatable exchange to gINT, Leapfrog and Power BI, with QGIS workflows and exploratory database analysis in R.
- Adapted GeoBIM for the IC Malmö project, developing a 14-table schema, investigation-specific templates and structured exchange outputs for multiple test methods, supported by dashboard prototypes.
- Authored a proposal for a Slovenian geological and geotechnical data platform, defining work packages for standardisation, database architecture, web access and use-case testing.

Founder | TRS Consultancy & Agency Ltd. 2025

Building a **digital engineering and ISO 19650 advisory practice** for SME contractors and consultancies in emerging markets, with the service model, assessment methodology and delivery tools currently under development.

PROFESSIONAL CERTIFICATIONS & DEVELOPMENT

- **RICS Certificate in Information Management Using BIM** | RICS 2026 | In progress
- **APMG Change Management Foundation & Practitioner** | APMG International 2026 | In progress
- **RICS Harnessing AI & Data in the Built Environment |** RICS 2026
- **EU Horizon Proposal Development Masterclass** 2024
- **Project & Quality Management Training** 2023

EARLIER EXPERIENCE

- **Lecturer** | North South University, Dhaka, Bangladesh *Jan 2017 – Sep 2019*
  Delivered civil engineering courses with a focus on core subjects and applied problem-solving.
- **Geotechnical Engineer** | Prompt Engineering Pty Ltd, Perth, Australia *Dec 2015 – Jun 2016*
  Conducted PLAXIS 2D stability and settlement analyses; authored geotechnical assessment reports and supervised field testing.
- **Foundation Engineer** | DDC, Dhaka, Bangladesh *Mar 2014 – Feb 2015*
  Contributed to Dhaka Metro Rail Line-6 foundation design and model-based documentation, supporting multi-stakeholder coordination.

EDUCATION

- **Joint Erasmus MSc, Building Information Modelling** *2020*
  University of Ljubljana & University of Minho
  Thesis: Geotechnical Data Management in BIM Environment | Thesis grade: 9/10
  Average grade: 9.67/10
- **MSc, Geotechnical Engineering** *2013*
  Newcastle University, United Kingdom
- **BEng (Hons), Civil Engineering** *2012*
  Cardiff University, United Kingdom

TECHNOLOGY & PLATFORMS

- **Built Environment:** Autodesk Revit, Navisworks, Solibri, BIM 360, Dalux, Autodesk Tandem
- **Data, Analytics & Cloud:** Power BI, PostgreSQL, Python, Azure, CKAN, QGIS

SELECTED PUBLICATIONS

- Chochanova, E. & Rahman, T. (2025). Integrating Privacy, Security, and Ethics in Smart Buildings: A Practical Framework for Digital Resilience. *REHVA Journal*, 06/2025, pp. 9–13.
- Rahman, T., Chochanova, E., Chamari, L. & Maassen, W. (2025). Evaluation and Business Opportunity Report, including Recommendations for Standardisation. Brains4Buildings consortium, public report.
- **Other writing**
  BIM Unlock: Your Fast-Track Guide to BIM (2025 - Present). Ongoing Bilingual professional guide on BIM adoption and information management.