



On the Holistic Approaches to Digital Transformations



Dolphin: A Dynamic Visualization Studio

Amit Manohar Manthanwar

Principal Investigator

The Annual General Meeting of Stakeholders

Strategic Vision & Implementation Roadmap

A Proposal for Discussions and Further Actions

December 1, 2024

Disclaimer



- This presentation contains information for internal use only by the recipients.
- If you are not the intended recipient, you should not review, use, disclose, copy, or forward this information.
- If you have received this presentation in error, please notify the sender immediately and delete all copies.
- Statements of fact, views, and opinions expressed in this presentation and on the following slides are solely those of the author and presenter and not necessarily those of the individuals, organizations, companies, or cosponsors mentioned.
- Although the information in this presentation has been produced and processed from sources believed to be reliable, no warranty, express or implied, is made regarding the accuracy, adequacy, completeness, legality, reliability, or usefulness of any information. We assume no liability for errors or omissions in the presentation.
- This information is under “Fair Use” for purposes such as criticism, comment, teaching, scholarship, and research.
- All rights and credit go directly to the rightful owners. No copyright infringement is intended. If you wish to use any copyrighted material for purposes of your own that go beyond fair use, you must obtain permission from the copyright owner.

Amit M. Manthanwar

Principal Investigator

Digitally signed on December 1, 2024

Antitrust Guidelines



- All consortium meetings, whether held at a physical location or virtually, must be conducted in accordance with the relevant competition and antitrust laws of the [EU Antitrust Policy of the Treaty on the Functioning of the European Union](#).
- As a condition of participation in these meetings, you agree that you will at all times refrain from discussing any information which is confidential to your organisation and/or which is likely to affect the commercial strategy or activities of your organisation and/or its members.
- You will **not use this forum for exchanging commercially sensitive or confidential information**, whether in person, or through virtual means of communication, such as chat functions.
- You are in the best position to judge what is, and what is not, commercially sensitive or confidential and so responsibility lies with you in the first place.
- You are also reminded not to discuss topics outside the previously circulated and reviewed agenda.
- Failure to follow these guidelines may bring serious consequences for you as an individual and/or your organization.
- Each participant is [obligated to speak up immediately](#) for the purpose of preventing any discussion falling outside the constraints of antitrust laws.

Outline



- Introduction and Background
- Key Challenges and Problem Statements
- Multidisciplinary Technical Capabilities
- Proposed Creative and Innovative Solutions
- Development Roadmap and Key Tasks
- Resources and Budget Requirements
- Economic Impacts and Value Propositions
- Discussions and Immediate Actions

Timeline and Key Dates



- Development Stage I: Javascript
 - **Visualization Studio with Javascript Libraries**
 - Deadline: 30 March 2025
- Development Stage II: LaTeX
 - **Publication Automation with LaTeX Libraries**
 - Deadline: 30 March 2025
- Demonstration Stage
 - **Web and Mobile Application**
 - Deadline: 26 June 2025



- Challenges and Requirements

- Significant Reduction in Storage Requirements
- Significant Reduction in Computational Resources
- High Performing Solution with Minimal latency
- Visually Appealing and Aesthetically Pleasing

- A New Paradigm in Data Visualization

- Adaptation of Holistic approaches to Dynamic Data-driven Object Oriented Vector Design Thinking
- Persistency of Data and Solution Portability to Any Medium or Platform
- Offer Engaging User-centric Personalization in Reconfigurable and Collaborative Design Environment

- Specific Objectives

- Orchestration of solution with real-world examples
 - Develop integrated and harmonised approach
 - Demonstrate a whole system approach in an operational environment
- Development of Digital Tools for Digital Twinning
 - Manage bigdata: secured storage and open access
 - Develop online tools for vector-based design
 - Develop configuration options for intuitive decision-making
- Capacity Building - Knowledge and Technology Transfer

Design Criteria for Excellence and Targetted Impacts



- Excellence

- *Objectives and relevance*: How clear are the project's objectives? How relevant are they in contributing to the overall goal and the specific objectives of the new design thinking?
- *Novelty*: To what extent is the proposed work ambitious and goes beyond the state-of-the-art?
- *Plausibility of the methodology*: How sound is the proposed methodology, including the underlying concepts, models, assumptions, appropriate consideration of the gender dimension in research content, and the quality of open science practices?

- Impact

- *Potential Impact*: How credible are the pathways to achieve the expected outcomes and impacts? To what extent would the successful completion of the project contribute to this?
- *Innovation potential*: How adequate are the proposed measures for protection of results and any other exploitation measures to facilitate future translation of research results into innovations with positive societal, economic or environmental impact? How suitable are the proposed measures for involving and empowering key actors that have the potential to take the lead in translating results into innovations in the future?
- *Communication and Marketing*: How suitable are the proposed measures, including communication activities, to maximise expected outcomes and impacts for raising awareness about the project results' potential to establish new markets and/or address global challenges?



- Development of Digital Platform for Data Exchange, Digital Twinning, and Dynamic Design
 - **Development of Cloud Ecosystem, Tools and Services**
 - Development of digital infrastructure, digitization of data and assets, online and mobile applications for data visualization
 - **Cloud Orchestration, Demonstration and Valorisation Using Selective Case Studies**
 - Rigorous testing and implementation of the proposed cloud ecosystem using a demonstrable case studies
 - **Quality Control and Testing the Effectiveness of Digital Transformations**
 - Using targeted case studies analyse the key performance indicators to enhance cloud ecosystem tools and services
- Development of Intelligent Algorithms and Model-based/Data-Driven Tools
 - Development of intelligent algorithms for data assimilation, extrapolation, and time-series forecasting.
 - Development of spatiotemporal models, and their digital-twins for rapid what-if analyses and scenario testing, uncertainty and risk analyses, war-gaming to test adverse impacts, and cost-effective strategies for mitigation of impacts
 - Identification of model/data-driven best practices for actionable insights and decision making
- Capacity Building, Knowledge and Technology Transfer Activities
 - Development of learning ecosystem to enhance creativity, imagination and future-ready skillsets

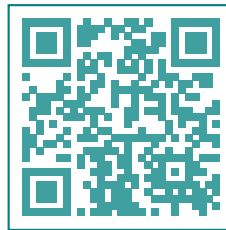
Expected Impacts



- Innovation
 - Contributes to dynamic design process underpinning an open digital ecosystem that provides industry ready the tools and services
 - Contributes to the technological and environmental sustainability
- Utilisation of Emerging Technologies
 - Derives benefit from the digitalisation and bigdata intelligent analytics to contribute to its advancement and promotion
- Positive Impact on Technology Integration and Societal Evolution
 - Foster science and technology in social inclusion, increase local and region technological capabilities
 - Increased interest in new technologies, including those applied to print and digital design
- Skill Development and Capacity Building
 - Provide new skills that are engaging and easy to acquire underpinning an economy generating more employment where high-skilled workforce is needed
 - Empower youth in the new emerging areas of technology innovation with deep roots in science and technology.
 - Bridge the gender gap and promote disadvantaged minorities
- Economic and Environmental Impacts
 - Support direct and indirect economic growth with specific focus on technology driven policy directives
 - Assessment of climate impacts including promotion of climate change awareness

Contact

- Mail: `manthanwar@hotmail.com`
- Repo: `github.com/manthanwar/JS-SVG-Client`



Dolphin.js