

Hologram: Orbit Visualisation



Visualisation helps us better understand large and complex data sets.

Cutting through complexity

Large or complex data sets can be difficult to understand. For example there are more than 6,500 satellites orbiting the planet. Trying to understand the impact on the movement of any single satellite within this complex system is challenging. By plotting this data in a visual, easy to manipulate and interpret 3D hologram it can help users collaborate and understand what the data means.



Enabling collaboration

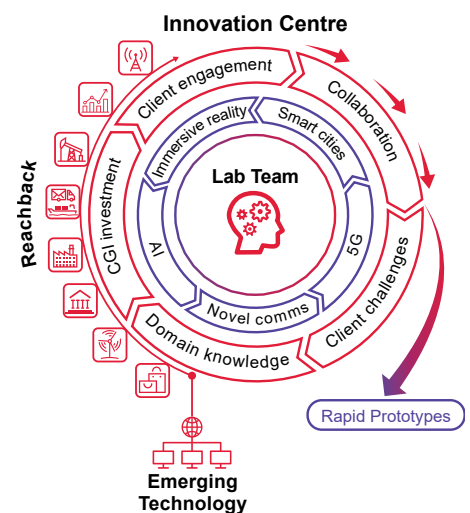
Different people communicate and think in subtly different ways. Our goal is to enable collaboration between users by giving them the right tools within a collaborative environment. This enables them to engage with problems and data digestion in a more natural way.

The example of a representation of satellite orbits created by CGI was made to demonstrate how a set like the satellite orbital data can be represented in a novel manner. From holographic visuals to gesture controlled inputs, the objective is to get people more naturally involved in the discussions so that they can bring their particular expertise and insights to bear.



Gloucester Innovation Centre

Our Gloucester based Innovation Centre is the research and development lead for CGI's space, defence and intelligence business. Within our Innovation Centre, research and development is targeted on technology readiness levels 1 to 4.



Future developments:

With an existing platform to build upon, we can adjust the application or re-purpose the approach to meet your specific challenge. For example using the orbital visualisation use case, this could be adapted to include:

- Historic vs Current satellite position comparison
- Temporal analysis
- Flight and marine data linked to satellite usage and capacity feedback.

Above, are just a few of the possible directions to take this visualisation. In particular, being able to compare existing datasets will allow a visualisation engine to become a powerful trend analysis tool.



Our breadth and knowledge in innovation ideas makes for a strong reach back and constant view of technology landscapes across industries. Client engagements are used to elaborate challenge themes such as identity, 5G, smart cities, web3.0 and constant horizon scans. SME engagements and university links create a rich picture of technology which feeds a “hopper” with a constant flow of ideas and challenges.

The Lab encourages an ethos of learning and experimentation with constant emphasis on self-improvement and teaching across a very wide range of technical disciplines. The Lab is capable of taking on tasks ranging from low level protocol analysis, AI and applied machine learning, mobile app development, cyber research and software reverse engineering. The knowledge spans the full scale of communications environment including terrestrial and satellite, internet and IoT. We frequently hold hackathons with a view to teasing out opportunities around technologies such as machine learning, blockchain, IoT and geospatial data.

About CGI

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across hundreds of locations worldwide, we provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

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