What tools have we been using in the construction industry?

- **Ancient Plans**: Egyptian and Mesopotamian ground plans (c.2200 BC)
- **Renaissance**: Pen and ink drawings (1400-1600)
- **Blue prints**: Developed by Sir John Herschel (1800-1970)
- **CAD for PCs**: Mass printing of 2D drawings, 3D modelling followed (1980s)
- **Portable electronic screens**: Drawings and models viewed on displays
- **Extended reality**: Exploring the use of virtual reality and augmented reality

How can Virtual Reality / Augmented Reality help the construction industry?

**Current constraints:**
- Visualisations on flat screens
- Limited viewpoints with fly throughs
- Software license requirement
- Software knowledge/training

**VR and AR allows:**
- Improved decision making
- Seamless interaction
- Wider accessibility
- Intuitive interface

Where has it been used?

- **Rochester Bridge Refurbishment**
- **Rotherhithe to Canary Wharf Bridge**
- **Great Junction Street Bridge**

What was the feedback?

- **Truer sense of scale & form**
- **Ease of use & portability**
- **Better view of impact to surroundings**
- **Improved comprehension**

"The models were also useful to take views along the structures to get a sense of not just what they look like, but how it may feel to use them."

**R.G. Senior Engineer**

What next?

- **Awareness & adoption**
- **Modelling expertise & training**
- **Maturity of technology?**
- **Mainstream or niche application?**
- **Value to the engineering process?**
- **MIXED REALITY?**

**Great Junction Street Bridge**

*Digital Innovation Award*

**Try the AR APP today!**

**Microssoft’s Hololens 2: A $3,500 Mixed Reality Headset for the Factory, Not the Living Room**

**Gartner Hype Cycle**