

Foreword

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Temporal clustering of technologies since the onset of the Industrial Revolution has led some historians to note five distinct pulses – or waves – of technology. The current fifth wave, what we know as the ‘Information Age’, is now firmly established as a feature of modern life.

Whilst each wave retains a number of unique characteristics, they all share some common features.

Each has followed a similar developmental trajectory. This consists of six distinct phases – pre-eruption (where the need is established), eruption (where the technology bursts upon the scene), frenzy (where the merits of the technology are overstated), crisis (where the exaggerated claims realign with reality), synergy (streamlining the technologies), and finally maturity (where the technology becomes ubiquitous). It is normally the case that the pre-eruption phase of the successive wave occurs during the synergy phase of the previous wave.

Perhaps an appreciation of where we are now might demonstrate this rather abstract point. Recent events saw the crisis of maturity of the information age, the fifth wave. This is the point about halfway along the course of the wave where the exaggerated claims attributed to the developing technologies realign with the reality of what they can offer. The model suggests that the course for this decade and part of the next would be a period where the technologies of the information age mature and consolidate prior to becoming ubiquitous. There is some way to run with the development of information age technologies and applications, but the model suggests that this decade will be less innovative than previous ones.



Instead, for innovation, one needs to look for signs of the pre-eruption phase of the sixth wave. What is the sixth wave likely to be about? In many ways, technology develops to satisfy human needs. The first half of this century is likely to be dominated by significant global population growth combined with the limits to resources contained on the planet being tested. In a single word: scarcity. We take the view that the sixth wave will be all about resolving the issues of resource scarcity, which is why we have called it the ‘Green Wave’.

Science and technology develop to respond to the needs of the societies they serve. In an era of acute resource scarcity, the focus of research and development will be to help alleviate that scarcity. This may manifest itself in a number of ways, with a commercial edge to stimulate R&D to find a solution to particular problems. On a larger scale, that is what the Green Wave is likely to be about.

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