

Maximising Individual Wealth

The Digital Age Handbook

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SAMPLE

Chapter 3. Technology Investment Driving the Digital Age

Summary

Iron, coal and other metals drove the Industrial Era which created an unimaginable range of products that gave riches to a number of people and a livelihood to millions. It concentrated first productive power, then financial and a military authority that in the hands of unscrupulous politicians created wars of expansion. The financial institutions that arose created great wealth for both shrewd participants and investors.

The Digital Age will create quite a new kind of technology and investment opportunities centred around the atom and its limitless applications. Unlike the large corporations of the Industrial Era, the new enterprises are likely to be much smaller, more specific and probably also less durable for rapid advances will make many technologies redundant. In an age when many of the financial institutions will have either disappeared or been replaced by IT, many new and specialist vehicles will grow up to provide investors with opportunities in the new era. These are just some of the present technologies, many more will arise.

Introduction

Carbon and its compounds are the basis for organic chemistry but there exist 200,000 inorganic applications whose properties are not yet known; one application is its use in fixture-free construction. The process begins by creating fine strands some millionth of a metre thick which are then heated and bound into fibre before being woven into sheets that are ready for production. By orientating these sheets and cementing them into place in an automatic process great strength is achieved in assemblies such as Boeing and Airbus aircraft where they comprise half the weight.

The process is also being used for cars and other structures where considerable strength and weight is a premium but the process is becoming cheaper and faster to be adapted to the mass-production of vehicles. The production process is also much simpler for no fasteners such as

bolts or rivets are used. Among the very many other uses of carbon is graphene, a film of atoms thick, which has great strength and conductivity; it has many applications including solar power, and minute carbon tubes are being increasingly used for desalination.

Biotechnology

Another carbon based technology is Biotechnology, a process for adapting live organisms for medicine. The process has ancient roots when certain plants were domesticated then used as curatives or other practical means. The story is told of Chaim Weizmann, a professor of chemistry at Manchester, who invented a process for producing acetone from starch during the First World War – so saving many trees in the production of explosives. These are just some of the applications:

- Pharmacology can now prepare treatments adapted for each individual.
- Individual complaints such as cancers, arthritis and hepatitis, among others, can now be targeted by identifying and isolating the errant cell to prevent it from spreading.
- DNA analysis enables harmful genes to be identified then a curative gene spliced into the patient's genetic make-up.
- Live organisms may be used to isolate elements from their basic ore.

Geoengineering

Geoengineering is concerned with exploring means of reducing man-made carbon dioxide by such means as stimulating plankton to absorb more of the gas and other more well-tryed methods such as tree planting.

Agriculture

Agriculture took great strides ahead after the Second World War with the 'Green Revolution' which greatly improved the use of hybrids, new methods of cultivation and harvesting, extending the use of aquifers and so on. However, most of these benefits have been implemented and new generations of cultivation are being introduced such as vertical farming, an aspect of aquaculture where plants are circulated with the required nutrients and climatic control. It is held that this optimises the growing cycle and avoids the great waste associated with bringing material to the market and then into homes.

Technology is also being applied to field operations where whole fields are analysed down to small areas for their optimum growing potential; these can then be individually treated to increase the yields. Agriculture uses 70% of all fresh water available despite around two thirds being lost in evaporation and a fifth lost through run-off; Israeli technology has considerably reduced the losses but this cannot wholly reverse the depletion of aquifers that were such a

source of water for the Green Revolution. As a further conservation measure new hybrids have been developed to use brackish water.

Nanotechnology

Nanotechnology, the science of dealing with material a billionth of a metre thick – or seven hydrogen atoms wide – has so far been applied to such things as protection against corrosion, surface protection and solar creams. However, its true potential has yet to be realised in fabricating complex structures as an entity or even creating food.

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