“Anticipating what can happen in the future is one thing, knowing what to do about it is quite another”

Company profile

**DeltaHedron** is a business consulting firm specialising in the management of technological innovation. We support our clients with the development and implementation of innovation and change strategies, focussing on the assessment of the strategic business impact, opportunities, risks and threats presented by emerging technologies and the dynamics of technological change.

**DeltaHedron** is a UK-based company with a global reach, drawing on expertise and experience from a world-wide network of associates in the fields of the management of technological innovation, risk assessment, engineering, computer science, intellectual property and organisational development.
Managing technological innovation
... opportunities and challenges all companies face

The need to manage the strategic business impact, opportunities, risks and threats presented by emerging technologies and the dynamics of technological change – managing technological innovation

We know that...

The fate and fortunes of companies, irrespective of the business they are in, are closely linked to the technologies on which they rely to conduct their business and which are often the core of their competitive advantage.

- All companies are technology-based in some way or another – either through the technology they and their customers use, produce or manufacture, as well as the technologies upon which their infrastructure, products, processes, supply chains, logistics and raw materials depend.

- Technologies are continuously changing and developing. They are constantly being improved to be ‘better, faster and cheaper’, at the same time making ‘last year’s hot model’ obsolete. Some technologies evolve at a gentle and incremental pace, whereas others change rapidly. From time to time the technological, business and societal landscapes are disrupted by radical innovations, often coming from unexpected and completely different industries than the one in which they impact.

The disruptions typically result from the interaction of a combination of emerging technologies blending with innovations from other fields, be it ‘finance, fashion or fitness’. Many emerging technologies are IT-based, including big data and analytics. However, the disruption can just as easily come from new materials, drones, robotics, 3-D printing, virtual and augmented reality, biometrics, the internet of things or a range of other emerging technologies.

The combination of these two principles leads to opportunities and challenges all companies continuously face...

The impact of technological innovation and the dynamics of technological change - specifically emerging technologies - not only present new opportunities but also strategic business risks and threats which can affect the company’s success and growth. The opportunities and threats are real, ubiquitous and very often come from unexpected quarters and technological sectors.

Anticipating what can happen in the future is one thing, knowing what to do about it is quite another. As is the case with all business risks, the process of technological innovation and the associated opportunities and strategic business risks - especially those presented by emerging technologies - should be managed. This should be done within the context of an innovation strategy which is an integral part of the corporate strategy, ideally with reference to the corporate risk strategy. Vigilant and continuous tracking of emerging technologies and assessing their impact are essential elements of this process. It is not surprising that industry leaders recognise the importance of the ‘innovation premium’ and consistently rank the management of innovation as one of their highest priorities.
Technological innovations and emerging technologies spawn new opportunities, new jobs and careers, new business models, new companies and industries, new ways of doing things and new sources of prosperity. When a new technological order is established, expect the industry hierarchy to change. New companies, in fact new types of companies, become the new industry leaders, often those had no position in the old technology. The 'wave of creative destruction' tends to destroy the established structure, triggering the demise of old technologies, labour markets, jobs and skills and eventually also companies and industries based on the old and obsolete technologies.

There are many examples of those who have created successful new futures underpinned by new technologies. Similarly, there are many who have perished whilst fumbling the future, who have been in denial whilst steadfastly clinging to the obsolete, who ignored the precursor indicators signalled by emerging technologies or deployed ineffective innovation strategies to deal with them. It not unusual to find that their organisational cultures just could not embrace the technological change or caused the transition to a new technology, if it was attempted, to be bungled.

**DeltaHedron**’s mission is to support our clients to identify, assess and manage the impact and strategic business opportunities, risks and threats presented by technological change and emerging technologies, and to development and implement innovation strategies which will enhance their competitive advantage.

Each of our clients has a unique vision, strategy and competences as well as opportunities and risks presented by the dynamics of technological change and emerging technologies. **DeltaHedron** applies its core expertise, working with its associates, to offer a range of consultancy services and products to support our clients’ specific current and future requirements.

**DeltaHedron**’s areas of core expertise underpin the future-focused consultancy services and decision-support in the management of technological innovation it provides to support its clients.

- **Anticipating and shaping an actionable technological future**

**DeltaHedron**’s thinking is future-focused. Anticipating an actionable future enables the proactive shaping of the future, rather than merely reacting to a world predetermined by others. The future is not a place – it is mindset, a trajectory and a process. Although accurate prediction of the future is a risky business, from a business viewpoint the future can certainly be anticipated. This is the key towards making timely interventions to proactively shape the future. Neglecting to do so is done at one’s own peril.

- **Understanding the dynamics of technological change as a driver of innovation and emerging technologies – ‘creative destruction’**

Technologies and their impact continuously change with time. It is the dynamics of technological change – whether incrementally or disruptive, in products, processes and services – which drive innovation, development and progress. The dynamics of technological change span not only the development trajectories of the technologies themselves, but also the growth in their performance, adoption and diffusion in markets, substitution of one technology by another, learning effects, cost and impact. It is the driver of technological innovation.

---

“Technological change is the fundamental source of economic growth”

OECD Ministers

“Technological change... is important if it affects competitive advantage and industry structure...[it] is one of the principal drivers of competition”

Michael Porter

“Anticipating what can happen in the future is one thing, knowing what to do about it is quite another”

Lee Iacocca

“We are constantly faced by great opportunities brilliantly disguised as insoluble problems”

Lee Iacocca

**DeltaHedron** is a UK-based company with a global reach, drawing on expertise and experience from a world-wide network of associates in the fields of the management of technological innovation, risk assessment, engineering, computer science, intellectual property and organisational development.
As technologies evolve, they continuously interact with one another. They traverse a complex landscape as they engage with other emerging and mature technologies in competitive, symbiotic and predator-prey relationships. DeltaHedron understands the dynamics of technological change, how emerging technologies impact on companies, create opportunities, the nature of the associated risks and threats, and how they underpin sustainable innovation strategies.

Analysing the impact of emerging technologies

Technological change and innovation do not occur in a vacuum. Not only is it important to continuously track a broad spectrum of emerging technologies, but also to detect, identify and interpret engineering, technological, scientific and other signals which precede the impact of emerging technologies in a wider context. These include trends and shifts in markets and industries as well as broader political, financial and economic, social and environmental changes.

Mindful that opportunities and disruptive threats often come from very different industries than the one they impact on, it is important to consider the future impact of a range and combination of emerging and more mature technologies, rather than assessing a specific technology in isolation.

DeltaHedron continuously tracks and analyses a broad range of emerging technologies, their interaction with and impact on another as well as their underlying science-bases and engineering implications. The focus is to identify opportunities and impact, as well as to anticipate and assess risk and threats.

At the same time, DeltaHedron also tracks the impact of the emerging technologies on a range of industrial sectors, existing and potential new markets as well as other cross-cutting areas of interest. This enables an analysis of the dynamic interaction of emerging and mature technologies with one another as well as their impact on the broader industrial and societal landscapes.

Development and implementation of technological innovation strategies, the identification of business opportunities and strategic risk management

Technology – specifically technological innovation and the associated strategic impact, opportunities and risks – should be managed within the context of an innovation strategy which is should be an integral component of the corporate strategy. DeltaHedron has experience of and expertise in the development and implementation of innovation strategies, specialising in the assessment and management of the strategic business opportunities and risks associated with technological innovation and emerging technologies, and the disruptive effect these can have on established technologies, companies, industries and markets.

Digital transformation

Digital transformation is an important element of innovation strategy, linking to a number of emerging technologies. DeltaHedron has experience of and expertise in digital transformation and IT strategy implementation. Its expertise in the learning, research, management and administration areas of higher education institutions is transferable to the challenges faced by large companies as well as SMEs.

Organisational change management

DeltaHedron has experience of and expertise in designing and implementing organisational change to support the introduction, adoption and diffusion of technological innovations. More often than not the development, adoption and implementation of technological innovation require changes in a company’s culture, management and business models, processes, organisational structures and skills requirements. Effective change leadership and management of the transition from one technological paradigm to another are essential elements of successful innovation.
Technology transfer and industry-university collaboration

DeltaHedron has experience of and expertise in various aspects of technology and knowledge transfer, industry-university collaboration, contract research and consulting, executive education, intellectual property management and spin-out companies; as well as the establishment of business and technology incubators, innovation labs and science/techno parks.

Innovation policy and strategies on the national, regional and local levels, and rendering of scientific, technological and innovation advice to government

Technology, the dynamics of technological change and emerging technologies are important drivers of regional, national and global economic development. They impact on a range of societal issues, such as quality of life, health, education and job creation. DeltaHedron has experience of and expertise in the development of national and regional innovation systems, policies and strategies; as well as the rendering of science, technology and innovation advice to government.

Consultancy services and outcomes

DeltaHedron applies its core expertise to offer a range of consultancy services and products which support our clients’ current and future requirements. DeltaHedron delivers its consultancy services and decision support as well as workshops, seminars, executive education and training to its clients through a combination of its own core expertise areas described above, complemented by the expertise of its global network and tailored to a client’s specific requirements.

Publications

DeltaHedron Innovation Insight is a series of regular newsletters. They explore aspects of the technological future and the management of technological innovation, with a specific focus on the impact, strategic business opportunities, risks and threats presented by emerging technologies and the dynamics of technological change. The newsletters are published on DeltaHedron’s website.

DeltaHedron can also work with its clients to produce thought leadership publications on their behalf, aimed at their customers and wider audiences.

Consultancy and decision support

• Strategic business opportunities and risks presented by emerging technologies and the dynamics of technological change – identifying and tracking emerging technologies

Where are we, what are the opportunities and risks, and what can we expect?

DeltaHedron can provide its clients with a bespoke technological horizon scanning and foresight service, with regular interpreted updates on developments of specific emerging technologies of interest to a client, and analysis of opportunities and threats.

DeltaHedron can also undertake client-specific in-depth analysis and assessment of specific areas of interest to the client as part of its consultancy and advisory services.
DeltaHedron can support its clients with bespoke technology opportunity/risk assessments and audits, designed to determine their strategic fit, potential and technology readiness to exploit new opportunities, as well as their vulnerability to strategic threats presented by emerging technologies.

DeltaHedron can provide its clients with a range of competitive technological intelligence services and products.

- Developing and implementing technological innovation strategies

**What do we do about it?**

DeltaHedron can work with clients to develop and implement bespoke corporate innovation strategies and integrate these with their corporate strategies; as well as innovation strategies for specific products and processes.

- Decision support for boards, audit committees and senior management

**Can we improve the quality of strategic decision making?**

One of DeltaHedron’s specific focus areas is advisory support for clients’ boards and advice to Chief Executives and senior management who have a requirement to better understand the impact, opportunities and their exposure to the strategic business risks presented by emerging technologies.

Corporate governance structures, specifically company boards and audit committees, and senior executive management have a need to understand the changing technological landscape and technologies which can impact their company as well as those of their customers, partners and competitors.

- Digital transformation

**Are we ready to compete and lead in the digital world?**

DeltaHedron can support clients with the development and implementation of digital transformation strategies, within a context of broader innovation strategy and management.

- Developing the case for impact, competitiveness, effectiveness and efficiency of digital transformation.
- Organisational structure and culture transformation; future skills requirements and implementation support.
- Digital transformation and IT strategy in higher education, including enterprise systems, educational technology, virtual and cyber campuses and mobile applications.

- Change leadership and management

**How do we ensure the company is ready for this?**

DeltaHedron can work with clients to assess the nature of the organisational culture with regard to the adoption and use of technology, and to develop and implement optimised organisational structures and transformation processes. We can support clients to assess the organisational and other business changes required to facilitate successful implementation of the innovation strategy and adoption of technology, including future skills requirements.
**DeltaHedron** can support clients to better understand the adoption characteristics of the technology-based products in markets and to develop effective diffusion strategies.

- Facilitating the adoption and diffusion of technology and innovations.
- Developing organisational transformation, assessment of changes in the nature of future skills requirements and new business models.
- Implementation support.

**Technology transfer, R&D and industry-university interaction**

**DeltaHedron** can support clients in industry and the higher education sector with the facilitation of industry-university interaction and technology transfer as well as the enhancement of entrepreneurship development initiatives.

- Technological entrepreneurship development, including business and technology incubators, innovation labs and science/techno parks.
- Research and development (R&D), and enterprise support.
- Assistance with the preparation of R&D tax credit claims.
- Intellectual property exploitation strategies.

**Decision support and policy development for national, regional and local government and the public sector**

**DeltaHedron** can support clients in national, regional and local governments and the public sector with policy advice, specifically pertaining to the development of innovation policies and strategies within the context of national, regional and local innovation systems.

- Development of national and regional innovation policies and strategies, and support with economic regeneration strategies.
- Rendering of science, technology and innovation advice to local, regional and national government and the public sector.
- Enhancement of competitiveness.

**Workshops, keynote addresses, seminars, executive education and training**

**DeltaHedron** can present workshops, seminars and keynote addresses as well as executive education and in-house training modules in the areas of its core expertise. These are tailored to focus on a client’s specific requirements, opportunities, risks and technological base, while at the same time covering a broader spectrum of emerging technologies which can impact on the client’s company and industry.

Typical topics can include one or a combination of:

- Future-visioning, horizon scanning and foresight, and anticipating an actionable technological future.
- Analysis of emerging technologies and their impact, strategic opportunities, risks and threats.
- Managing the dynamics of technological change for competitive advantage.
- Innovation strategy and innovation-driven organisational change.
- Competitive technological intelligence.
- National and regional innovation systems, policies and provision of science advice to government.
How we work

DeltaHedron recognises that each of our clients has a unique vision, strategy and competences. DeltaHedron applies its core expertise to deliver a custom-adapted blend of consultancy services and products to support our clients’ current and future needs. The focus is on the client’s specific requirements and challenges regarding the management of technological innovation and the strategic business opportunities and risks presented by emerging technologies and the dynamics of technological change to them. DeltaHedron is a globally-networked company, drawing on a world-wide network of associates with expertise and experience in relevant areas to complement its own.

A typical engagement would commence with an understanding of the client’s specific requirements and challenges, and their anticipated opportunities and risks regarding the management of technological innovation and the dynamics of technological change. We gain an understanding of the client’s technological competences and strengths as well as its current and potential markets, customers, business models and competitors.

DeltaHedron can make a presentation to the client, focusing on the nature of technological innovation and the strategic business opportunities, risks, threats and opportunities presented by technological change and emerging technologies, emphasising how these can impact on a company and the industry in which it operates.

An analysis/audit of the client’s technological competences can be undertaken to determine technology readiness and vulnerability, together with an analysis of the specific emerging technologies which may impact on the client’s business in the short, medium and longer term. Working with the client, innovation strategies and interventions to address opportunities, risks and threats can then be developed and implemented. These include strategies for the adoption and diffusion of technology and products. DeltaHedron can also support clients with consultancy and implementation regarding organisational changes which may be necessary, as well as future skills requirements.
**Large companies**

Large companies typically have in-house technology expertise, comprehensive infrastructure and formal governance structures which include a board and audit committee. They often have a technology presence on the board and at the senior executive or director level, perhaps with a Chief Technology Officer (CTO), technology strategists, Chief Information Officer (CIO) and an IT Department as well as an R&D group and other technical expertise.

- **DeltaHedron** can complement a large company’s internal horizon scanning and foresight of the evolving technological landscape and analysis of emerging technologies, and undertake in-depth analysis on client-specific requirements.
- **DeltaHedron** can provide an independent external view on the identification, assessment and management of the strategic business opportunities, risks and threats presented by emerging technologies. We can provide decision support on the level of the company board, audit committee and senior management is one of **DeltaHedron**’s main focus areas.
- **DeltaHedron** can support clients with the development and implementation of innovation strategies and digital transformation to address strategic opportunities and risks, as well as with the design and implementation of organisational change management and leadership, and the assessment of future skills requirements.
- Large companies can benefit from the government’s R&D tax credit scheme. **DeltaHedron** can support clients with the preparation of tax credit claims by assisting them with the articulation of their technological R&D activities to indicate how these adhere to the criteria for tax credits. In some cases, **DeltaHedron**’s consulting fees with regard to the development of R&D and innovation strategies may also qualify for R&D tax credits.
- Large companies often have an interest in national and regional innovation systems, strategies and policies. **DeltaHedron** can support its clients in keeping abreast of developments in these areas as well as with the formulation of submissions that they may wish to make as inputs to national and regional policies and strategies.
- Many large companies have or can benefit from industry-university engagement and technology transfer. **DeltaHedron** can support its clients by facilitating these engagements as well as by providing consultancy with regard to business and technology incubators, innovation labs and science/techno parks.

**Small and medium enterprises (SMEs)**

Small and medium enterprises are well positioned to pursue the business opportunities presented by emerging technologies. At the same time, they are also exposed to strategic business risks presented by emerging technologies and technological change. However, they often do not have the internal resources or expertise to identify the opportunities and to assess and manage the risks and threats, as do larger companies. SMEs are usually very aware of technological developments closely associated with their own technological competencies, but often lack resources to continuously scan the wider technological landscape. Hence, they may miss opportunities presented by emerging technologies coming from other sectors. This exacerbates the risks, since disruptive technologies often come from very different industries than the ones which they disrupt.

- **DeltaHedron** can provide expertise and services to SMEs for which they do not have the internal expertise or resource. This includes regular updates on the evolving technological landscape and emerging technologies as well as occasional bespoke in-depth reports on specific topics of interest. As in the case of larger companies, **DeltaHedron** can also support clients with the
identification of the strategic business opportunities and risks presented by emerging technologies, development of innovation strategies and digital transformation to address these, as well as with organisational change.

- SMES can benefit from the government’s R&D tax credit scheme. DeltaHedron can support clients with the preparation of tax credit claims by assisting them with the articulation of their technological R&D activities to indicate how these adhere to the criteria for tax credits. In some cases, DeltaHedron’s consulting fees with regard to the development of R&D and innovation strategies may also qualify for R&D tax credits.

- DeltaHedron can support SMEs to benefit from engagement with universities and other higher educational institutions, as well as by providing consultancy with regard to business and technology incubators and innovation labs.

- **Business consulting companies and audit firms**

  Business consultancy and advisory companies, as all other businesses, can also benefit from the exploitation of opportunities and are exposed to the strategic business risks presented by emerging technologies. From a consulting and audit viewpoint, DeltaHedron can provide its services in a cooperative partnership model to other consulting companies who may not have the specific expertise or resources to address their clients’ needs in the areas where DeltaHedron has expertise.

  DeltaHedron’s specific expertise in supporting the audit structures of companies to assess and manage the strategic business risks (threats and opportunities) presented by the dynamics of technological change and emerging technologies, including a structured approach to technology risk assessment, readiness and vulnerability, can be useful to other consulting companies and audit firms in assisting their clients.

- **Investors, venture capitalists and fund managers**

  Investors, venture capitalists and fund managers are interested in the business opportunities presented by emerging technologies and the risks facing the companies they invest in. DeltaHedron can provide support regarding the strategic risks, threats and opportunities presented by technological change and particular emerging technologies, and the nature of the industry disruption that can be expected in various industries; as well as due diligence with regard to the technological developments.

- **Government and the public sector**

  DeltaHedron can support government and public-sector agencies on the national, regional and local levels with the development and implementation of innovation systems, policies and strategies; as well as related industrial, regeneration and competitiveness strategies and economic development. In addition, DeltaHedron can also assist with the establishment of processes for the rendering of technological, scientific and innovation advice to government and its agencies.

- **Higher education**

  DeltaHedron can facilitate industry-university engagement and technology transfer, and provide consultancy with regard to business and technology incubators, innovation labs and science/techno parks. Regular updates on emerging technologies and their impact can be useful to universities as an input to their research strategies, funding applications and assessment of research impact. DeltaHedron can provide consultancy, decision and strategy support with regard to the deployment and impact of educational technologies as well as digital transformation, processes, systems and IT applications (including enterprise systems and business processes, mobile applications and the use of analytics).
The diagram shows DeltaHedron's Engagement Matrix, indicating our core areas of expertise and how they support the consulting service and decision support we provide to our clients.

<table>
<thead>
<tr>
<th>CLIENTS</th>
<th>DeltaHedron</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher education</td>
<td>Understanding the dynamics of technological change - ‘creative destruction'</td>
</tr>
<tr>
<td>Government</td>
<td>Analysing emerging technologies</td>
</tr>
<tr>
<td>Investors</td>
<td>Innovation strategies, identifying strategic business opportunities and risks</td>
</tr>
<tr>
<td>Consulting companies and audit firms</td>
<td>Digital transformation and organisational change management</td>
</tr>
<tr>
<td>Large companies</td>
<td>Industry-university engagement, technology transfer, and national and regional innovation systems</td>
</tr>
</tbody>
</table>

**Regular newsletters and insights on emerging technology trends, impact, opportunities and risks**

**Innovation Insight newsletters**

**Client-focused reports on specific topics**

**Client-specific reports**

**Emerging technology analysis and trends, assessment of related business risks and audits, competitive technological intelligence**

**Strategic business opportunities and risk presented by emerging technologies and technological change**

**Strategies for technological innovation - development and implementation support**

**Technological innovation strategies**

**Developing the case for digital transformation, strategy development and implementation support**

**Digital transformation**

**Designing and implementing organisational change and structures linked to innovation strategies**

**Change management and leadership**

**Designing and implementing innovation systems, foresight and audit**

**National and regional innovation systems; science, technology and innovation advice to government**

**Structures, systems and rendering of advice to government and public sector**

**Technology transfer and industry-university engagement**

**Facilitation, technology and knowledge transfer, technology incubators and innovation labs, science/technology parks**
Recent DeltaHedron Innovation Insight newsletters:

- Developments in emerging digital health technologies (No 1.2/17, April 2017)
- The impact of emerging technologies on the insurance industry (No 2/17, April 2017)
- People tracking technologies (No 3/17, May 2017)
- The impact of emerging technologies on the construction industry (No 4/17, August 2017)

The newsletters are based on studies conducted to assess the strategic business opportunities and threats presented by emerging technologies in these industries. They are available for downloading on the DeltaHedron website.

Please subscribe to the DeltaHedron Innovation Insight newsletter on our website.

Recent studies on trends in emerging technologies

Scanning of the technological horizon and tracking developments in emerging technologies is an integral aspect of DeltaHedron’s activities. We monitor a wide spectrum of emerging technologies on a continuous basis. This informs and supports our consultancy with regard to the impact, opportunities, risks and threats presented by the dynamics of technological change and emerging technologies.

DeltaHedron recently undertook a number of studies to assess developments in specific emerging technologies, viz.

- Developments in emerging digital health technologies
- The impact of emerging technologies on the insurance industry
- People tracking technologies
- The impact of emerging technologies on the construction industry

The objective was to identify and interpret recent trends in these technologies, typically focusing on developments in the preceding few months. The studies were deliberately wide, rather than focusing too narrowly on specific applications. It is important to do so, in order not to miss any opportunities or threats coming from unexpected angles at an early stage.

Our findings on trends and developments were published in DeltaHedron Innovation Insight, a series of reports and newsletters exploring aspects of the technological future and technological innovation, with a specific focus on the strategic business opportunities, threats, risks and impact presented by emerging technologies and the dynamics of technological change. DeltaHedron Innovation Insight newsletters and reports are available on DeltaHedron’s website.

Insights regarding the specific impacts, opportunities, risks and threats which these technologies may have are then explored with clients as part of DeltaHedron’s consultancy service.

A number of clients have expressed an interest in a bespoke technological horizon scanning service, where DeltaHedron will deliver regular interpreted updates on recent developments and trends in specific emerging technologies of interest to them.
Dr Calie Pistorius is the Chief Executive and Principal Consultant of DeltaHedron Ltd

Calie Pistorius has extensive consulting experience in the management of technology, technological innovation and the dynamics of technological change. He has published widely and delivered many keynote addresses, and has received a number of research awards. Previously he was the Vice-Chancellor of the University of Hull in the UK (Sep 2009-Jan 2017), the Emeritus Vice-Chancellor and Principal of the University of Pretoria (UP) (Aug 2001- Aug 2009) in South Africa; and former Dean of the Faculty of Engineering, the Built Environment and Information Technology, Director of the Institute for Technological Innovation (ITI) and the Director of Information Technology at the same university. He is also a former chair of the National Advisory Council on Innovation (NACI) in South Africa.

Consulting

He has consulted on the management of technological innovation for clients in the telecommunications, information technology, health, steel, energy, mining, electronics, aerospace, food and beverage, paper and pulp, consulting and chemical sectors, as well as universities and higher education institutions, science councils, government departments and municipalities. Inputs were also provided to the Georgia Institute of Technology on international technology indicators and the George Washington University Forecast on Emerging Technologies.

As Director of the ITI, he consulted through the Laboratory for Advanced Engineering (Pty)(Ltd), a campus company of the University of Pretoria. He was instrumental in the establishment and governance of a number of entrepreneurial campus enterprises, focusing on consulting, executive and continuing education, commercialisation of research, sport and a venture fund, as well as being involved in the establishment and governance of business incubators and a science/technology park.

The executive education workshop Managing Technological Innovation for Competitive Advantage was commissioned by several large companies and public bodies on an in-house basis and also attracted sizeable general audiences in South Africa and Australia.

Dr Pistorius now consults on the management of technological innovation through DeltaHedron Ltd, a UK-based business consultancy firm with a global reach.

Institute for Technological Innovation and research

Following a term as Professor and Head of the Department of Electrical and Electronics Engineering at UP, he established the Institute for Technological Innovation (ITI) in the Faculty of Engineering in 1998 and was as appointed as the Founding Director. His academic research in the management of innovation was...
conducted at the ITI and the Massachusetts Institute of Technology (MIT). The ITI focuses on various aspects of the management of innovation, including technology foresight, innovation management on the organisational level, diffusion of innovations as well as competitiveness and national innovation strategy and systems. Collaborative industry consortia were established and a number of industry-focused consultancy projects and contract research focusing on the management of technological innovation were undertaken.

Dr Pistorius was appointed as an Extraordinary Professor in Industrial Engineering at the University of Stellenbosch in August 2017.

Management and governance experience
Dr Calie Pistorius is an experienced Chief Executive with more than 28 years of senior management experience. He has successfully led two research universities (in the UK and South Africa) as chief executive and vice-chancellor over a period of more than fifteen years, in highly competitive and rapidly changing national and international external environments. Currently he is the Chief Executive and Principal Consultant of a business consultancy company he established in the UK.

• Leadership and management experience, and oversight of all the strategic, operational and business functions of large, complex, multi-stakeholder organisations with an international reach, as well as the Chief Executive of an entrepreneurial start-up company.

• Significant experience of change leadership and management, including renewal and transformation of organisational structures, organisational culture, social and cultural diversity, widening access, promotion of multilingualism and equality, business and operating model innovation, internationalisation, strategic positioning and differentiation of organisations.

• Experienced in building, leading and motivating teams, including core executive teams as well as larger leadership and management groups.

• Extensive experience of stakeholder engagement across the world on all levels, including engagement with chief executives of companies; heads of state, ministers, government officials and diplomats; leaders of universities, research institutes and NGOs; as well as funding agencies, donors and foundations.

He has substantial board-level governance experience. He is a Director of DeltaHedron Ltd, director of an educational trust and has served as a non-executive director of a number of companies in the UK and South Africa (involved with consulting, education, research and development, tourism, IT services and regional economic development), as the vice-chancellor of two universities and the Chair of NACI; as well as a member of advisory boards of science councils and bodies focusing on international scientific cooperation, the promotion of business and industry-university interaction.

Digital transformation and Information Technology
As Vice-Chancellor, Director of IT at UP and Director of the Institute for Technological Innovation, he has championed the IT modernisation of two universities, underpinned by his experience as an electronics engineer and knowledge of the UK’s academic IT infrastructure (as deputy chair of the board of JISC, the company serving the IT needs of the HE/FE sectors in the UK). This included digital transformation and the development of IT strategy, establishment and rollout of fixed and wireless networks, development and replacement of enterprise systems, data analytics, business intelligence and information systems, server networks and high performance computing environments, desktop management, computer laboratories, implementation and support of educational technologies, virtual learning environments and cyber campuses, mobile applications, disaster recovery and data and information security, as well as the organisational design of the IT Department and IT governance.

Famous last words
... predictions that went wrong

“Everything that can be invented has been invented”
Charles Duell, Commissioner of the US Patent Office, 1899

“Fooling around with alternating current is just a waste of time. Nobody will use it, ever”
Thomas Edison, 1889

“That the automobile has practically reached the limit of its development is suggested by the fact that during the past year no improvements of radical nature have been introduced”
Scientific American, January 1909

“Television won’t be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night.”
20th Century Fox, 1946

“Nuclear powered vacuum cleaners will probably be a reality within 10 years.”
President of the Lewyt Vacuum Cleaner Company, 1955
Science, technology and innovation advice to government and regional economic development

A new Ministry for Science and Technology was established in South Africa in 1994, supported by the National Advisory Council on Innovation. NACI is statutory body advising the Minister of Science and Technology (and through the Minister the Cabinet) on national science, technology and innovation policy and related matters. Dr Pistorius was invited to be a member of NACI, and was subsequently appointed by the Minister as the Chair of NACI. In this capacity, he was directly involved in steering the Council and the development of evidence-based national science, technology and innovation policy advice, and in presenting this to the Minister. He was also involved in rendering policy advice to the Department of Arts, Culture, Science and Technology on aspects relating to the National Research and Technology Audit and the National Research and Technology Foresight, the Department of Trade and Industry and the National Research Foundation.

Dr Pistorius has been a member of various bodies focusing on local and regional economic regeneration and innovation strategies in the UK, including the Humber Local Enterprise Partnership (LEP), Hull Forward, Hull City Leadership Board and the Greenport Hull Guiding Coalition. He was also a member of the steering committee for the World Conference of the International Association of Science Parks, Confederation of British Industries (CBI) Regional Council for Yorkshire & the Humber and Leadership Council of the National Centre for Universities and Business (NCUB) in the UK.
DeltaHedron’s business offices are located in the Centre for Digital Innovation (C4DI) - a vibrant private technology business incubator located in the centre of Hull in the United Kingdom.

www.c4di.technology

Contact us
Please contact us to discuss how DeltaHedron can work with and support your organisation with consultancy in the management of technological innovation, and the assessment of the impact and strategic business opportunities, risks and threats presented by the dynamics of technological change and emerging technologies.

DeltaHedron Ltd
C4DI
31-38 Queen Street
Hull
HU1 1UU
United Kingdom

+44 (0) 7540 671 295
info@deltahedron.co.uk
www.deltahedron.co.uk

DeltaHedron Ltd is incorporated as a limited company in England and Wales

Company number: 10532817

Registered address:
20-22 Wenlock Road
London, N1 7GU
United Kingdom