

Future Connections:

Business Relationship Management in 2020

An overview of key factors in global business to 2020 developed by an expert team drawn from PSL and its Steering Group



PSL

Building business relationships

Foreword



Rt. Hon Margaret Hodge MP

In 2000, PSL published a vision for Purchasing and supply looking forward ten years, entitled 'Vision 2010 – the future of purchasing and supply'. Many of the predictions it contained have already come to fruition. Today global development is accelerating; creating greater opportunities and even greater challenges than could have been foreseen just those few years ago.

Now in 2006 I am delighted to introduce 'Future Connections 2020', a thought provoking and challenging view of business relationship scenarios projected from what we know today.

DTI is working to create the conditions for business success and helping the UK to respond to the challenge of globalisation. From my own perspective, I can see the contribution that government can make to ensuring that industry in all regions of the UK grows and prospers, by showcasing successful entrepreneurial activity in our most deprived areas; by supporting sustained growth of locally owned businesses, employing local people; and enhancing productivity. One-way we are working to achieve this is by using public seed corn investment to attract more private investments, thus stimulating economic activities and employment growth. Another is by considering how the physical environment might be improved, enhancing our social capital (people with all those talents and abilities).

However we can only succeed at this if business itself has a strong entrepreneurial, globally oriented, outlook. One of the things industry must do is to be future oriented, aware of the drivers of global business change and able to place itself to profit from international trends.

Although this publication does not claim to give all the answers, it is a great contribution to thinking about these factors. I can see that, however challenging the future may be for business, it is clear that partnering, alliances and collaboration in the global economy will have an ever-increasing significance for the business models of tomorrow.

The contents of this publication may excite you; some aspects may worry you. Whichever, I am sure you will find it a stimulating and enjoyable read.....

Rt. Hon Margaret Hodge MP

Minister of State for Industry and the Regions

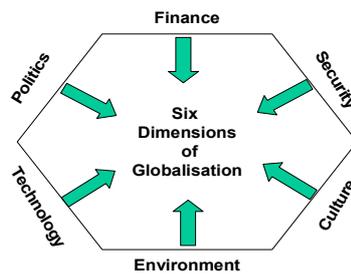
Executive Summary

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In 'Future Connections: business relationship management in 2020' PSL has built on the experience of producing 'Vision 2010 – the future of purchasing and supply' in 1999 and the series of monographs 'Aspects of the Future' in 2000 and 2001. Encouraged by the interest that was shown in these publications (and which continues to exist), the PSL team and Steering Group have extended their view of the future of business relationship management to 2020.

Using futures techniques to identify major drivers affecting business and developing scenarios, an expert group drawn from the PSL Steering Group and the PSL team has produced an overview of key factors impacting global business to 2020. Future Connections features three scenarios giving different possible futures.



Aspects of the scenarios are captured in 'A day in the life of a virtual business'.

In thinking about the drivers of business change to 2020 the expert group started from this model of the 'Six Dimensions of Globalisation'. For the purposes of developing scenarios, the group emphasised some additional factors:

- Culture and ethics
- Environment
- Technology and communications
- Politics and government
- Finance and resources and skills
- Security

These factors relate to the STEP tool of business analysis (Social, Technological, Economic and Political) but emphasise dimensions vital to thinking about future trends in globalisation.

The three scenarios are called 'Good', 'Bad' and 'Steady Change'. The first highlights beneficial effects of global political co-operation, coupled with a smooth transition of the centres of political and economic power from the West to the East, India and China in particular. However a continuing leadership role for the EU and the US is envisaged, particularly in the forefront of developments in renewable energy, combating global warming, the environment and in increasing resource productivity.

The 'Bad' scenario focuses particularly on constraints on global transportation imposed by escalating costs of fuel, exacerbated by carbon taxes imposed to pay for investment in re-forestation and other projects to combat global warming. In this scenario, no resolution of the underlying conflicts that promote global terrorism is seen and it is anticipated that this also impacts on world travel and trade. Cracks are also envisaged in the established structures of India and China. Given the economic power of these countries in 2020, if these instabilities develop further, upheavals even greater than those following the break-up of the former Soviet Union would be likely.

The last scenario, 'Steady Change', centres on the shift in economic power to the East, coupled with ever-increasing globalisation of business. However this globalisation has yielded only few of the benefits expected in terms of the environment and the quality of life of the poorest people. International terrorism and organised crime are still world problems.

So, will the future be 'Good', 'Bad' or 'Steady Change'? We cannot say. Almost certainly it will have features from all three. However, if organisations use the ideas here to build robust strategies for the future, they will be well-placed to cope with the deep changes to the business environment that we will certainly see by 2020.

Comparison with Vision 2010

In 1999 PSL published 'Vision 2010 – the future of purchasing and supply'. This was the outcome of a programme of futures work by an expert group from the PSL Steering Group and the PSL team itself. In 1999 business seemed to be standing on the threshold of growth, amounting almost to an explosion, of e-business –heavily impacting on procurement and the organisation of business. Such large changes were expected that we felt ten years to be the right time span to think about.

In 2000 and 2001 we published a series on monographs called 'Aspects of the Future' which added to Vision 2010. Some of the articles built on subjects already raised in Vision 2010, others tackled issues of new and emerging interest.

Six years on many of the developments driven by e-business, featured in Vision 2010, have happened (after a few hiccups along the way!) and PSL felt it useful to pick up where Vision 2010 left off and look at the future to 2020.

Following useful work at the Post Office Futures Centre for Vision 2010, the Future Connections expert group held sessions at the DTI Future Focus facility to develop its thinking about what would be the most important drivers in the business environment going forward to 2020. These drivers were used to develop three possible scenarios for the future.

In writing 'Future Connections: business relationship management in 2020', various people contributed a section each, whereas in Vision 2010 a rapporteur brought together the thoughts of the expert group, so different parts of Future Connections have different 'voices'. We hope this adds to the interest of the publication.

Vision 2010 was divided into several main sections addressing key areas of business: Organisational relationships; Business processes and costs; Global supply; and People and the organisation. As mentioned above, Future Connections works from a framework of the major underlying factors affected by globalisation (in Sections 3

'Review of global markets' and 4 'Impacts on business relationships') and derives three scenarios for the future, fleshing out the possibilities that the expert group saw. Finally we present a speculative 'day in the life of' a virtual company.

Is the future we saw in Vision 2010 very different to the possibilities in Future Connections?

In reviewing Vision 2010 and Aspects of the Future we were struck by how much over the past six years has developed as we thought it would and by how many parts of the earlier work remain valid and useful today.

However, our areas of focus and emphasis have changed. Whereas in Vision 2010 we spoke of globalisation largely in terms of trade and out-sourcing, now we identify likely global shifts of power and influence. In Vision 2010 we looked to the future impact of e-commerce, in Future Connections we see the coming of global sourcing of high value-added services, enabled by world wide ultra-broadband communications. Although we addressed sustainable development and ethical procurement before, now we see these issues moving to centre stage.

Within a year of the publication of Vision 2010, the attack on the World Trade Center in New York took place, further polarising relations between the West and Muslim countries; leading to the Iraq war (although many regard this progression as far from inevitable); and heightening the level of concern about security worldwide. Further major attacks followed: the Bali, Indonesia nightclub bombing (2002); the Madrid railway bombs (2004); a further series of bombs in Bali (2005); the London bombings (2005); and a series of bomb attacks in Amman, Jordan (2005). Inevitably these incidents have caused governments to place curbs on the movement and activities of people and businesses. Like the acts of indiscriminate violence that triggered such restrictions, they impact largely on those with no involvement in the political struggles that underlie the violence. Whether or not major incidents like these occur, and if they do when, where and



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Comparison with Vision 2010

by whom they are carried out, is outside the limit of futures studies, but here we can and do consider the trends that drive people to commit them and what the reactions of business and governments will be. The three scenarios describe different possible futures: the 'Bad' one, where underlying tensions are exacerbated; the 'Good', where nations and groups across the world generally find non-violent solutions to their problems; and 'Steady Change', which features a range of responses similar to those of today.

The past five and a half years have also included a number of natural disasters that have directly affected far greater numbers of people than those injured by political violence and war. The 26 December 2004 Asian earthquake and tsunami and the devastation of New Orleans by hurricane Katrina in August 2005 are only two of thousands that have occurred between 2000 and the end of 2005. Although extreme weather events, floods and droughts are thought by many to be triggered by global warming, the impact of which is considered here, the timing of these and other natural disasters cannot be forecast and is not part of our work. Although the local, national and international effects, particularly in the social and economic fields, of these events may be enormous, they do not usually result in shifts of policy or concerns about security in the same way as do acts of extreme political violence.



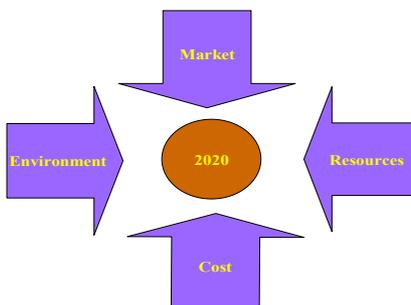
“...whereas in V2010 we spoke of globalisation largely in terms of trade and out-sourcing, now we identify likely global shifts of power and influence...”

Review of Global Markets

Market Emphasis

It has often been observed that markets move in cycles and, if we accept this view, it seems that Asia is on the upward swing commercially. Japan was yesterday's action story, now it is China. Who will be next -and who will suffer on the down side? Cultural and religious issues also have an impact and it is not known what impact the fundamentalist Christian (particularly in the US) and Islamic movements will have.

Companies operating in developed markets already find it challenging to remain competitive in traditional industries and services. There will be no let up in competition from low-cost suppliers, so innovation will be key to economic survival. This may include a move away from reliance on oil, reducing the influence of the Middle East oil producers.



In emerging markets, costs of production will inevitably increase as the prices of energy and labour rise. In developed markets resource costs will have an impact, but outsourcing of services to developing markets will continue to help keep overall costs down. Meanwhile resource-rich countries, regions and companies will have increasing power and influence.

China and India will cement their positions as economic powerhouses, driving demand for goods and services. Developed economies risk economic decline and the loss of political power, though retaining influence through international corporate links.

In response to these changes global companies will generate cost efficiencies and blur national boundaries. Economic and political issues will be driven increasingly by regional and sectoral agendas and by international interest groups.

Over the next 50 years, not just India and China, but also Brazil and Russia – together making up the 'BRIC' economies — are likely to become much larger forces in the world economy. Using demographic projections and models of capital accumulation and productivity growth, GDP and income per capita for these countries have been projected to 2050 (Goldman Sachs Global Economics Paper No. 99, October 2003), predicting that, by 2025, the BRIC economies could exceed half the size of the G6 (France, the United States, Britain, Germany, Japan and Italy). In 2003 they were worth less than 15% of the G6.

Each BRIC country faces significant challenges in keeping development on track but, if the projections are valid, there will be major implications for the global pattern of growth and economic activity. The importance of these countries in driving growth in demand and spending power may increase rapidly and could offset the impact of greying populations and slower growth in the advanced economies. However the per capita incomes of these countries, except Russia, are unlikely to be near those of the G6, even by 2050, as individual incomes in the developed economies continue to grow.

As today's advanced economies become a shrinking part of the world economy, the accompanying shifts in spending could provide significant opportunities for global companies. Investing in and being involved in the right markets—particularly the right emerging markets—will become an increasingly important strategic choice.

The Natural Environment

The environment is a factor that cannot be managed solely in the short term, so long-term planning is needed. From sudden high-impact disasters such as the Asian Tsunami and Hurricane Katrina, to the slow creep of global warming, rich and poor countries alike have to face the challenge. But will they - and who has the incentive to try hardest?

The developed world has lectured the developing world on the need to cut damaging pollution. The developing world replies that it is only following the lead of the rich nations. Neither wants to pay the cost of change. Perhaps environmental degradation will continue in developing markets, but will

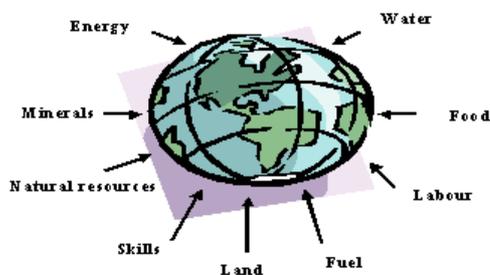


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Review of Global Markets (contd.)

be paid for in developed markets through the channel of global business. One thing is certain, short-term investment in environmental protection, resource conservation and technology is needed for long-term sustainability.

Urbanisation in emerging markets like China and India has the capacity for major negative environmental effects, increasing demand for power, processed food, disposable consumer goods and resources of all kinds, putting additional stresses on the environment. Other impacts could include severe water shortages resulting in conflict and migration.



Waste, if not tackled, will outstrip the ability of the natural world to absorb it without environmental degradation. As pointed out above, this is not a problem for the developed economies alone and exporting waste is not a sustainable solution. The shortages of resources, highlighted in the next section, will lead to waste itself becoming a resource through re-use and recycling as well as processing to provide new raw materials. Energy will be produced from the residue of waste not suitable for other treatment. New value chains will be created, minimising the use of resources and maximising the value obtained at every stage of the life cycle of products. This is likely to feature separation of waste streams, as near as possible to the point where product use ends, and large-scale plants, situated at key nodes in the transport infrastructure, where new raw materials are derived from various wastes.

Cost is a key driver of behaviour in resource use and pricing will increasingly penalise goods and services generating negative environmental externalities and encourage cleaner technologies (this is already seen in the taxation of road vehicles and road fuel in several countries). Technology will be a critical factor in facilitating sustainable development. New technologies will improve

resource efficiency and provide sustainable energy sources, reducing the cost of existing renewables.

Government policy will play an important role, particularly in addressing market failures associated with more sustainable ways of working, for example by supporting new energy technologies until they can build market share and compete on equal terms with existing energy sources. As we have already noted, another function of government will be to ensure that the costs of goods and services reflect the costs of any environmental impacts, for example in transport pricing and availability.

The environmental challenge is one that must be addressed at global, regional, national and corporate levels and through collaboration. Without this we face runaway global warming, devastating floods in the streets of London (and beyond!), resource constraints and impacts on the natural world, including loss of biodiversity.

Resources

Conflicts may result from this double pressure but, in an interesting and instructive move from competition to partnership, old enemies China and India have already agreed to cooperate on international investment in oil assets, including in some places the West would rather avoid on political grounds.

The mismatch between resource suppliers and users may be bridged by global companies rather than governmental organisations, but political and social stresses are likely. Constraints on the supply of natural resources can have political or monopolistic implications, so management of relationships with those that control these resources will be of increasing strategic importance. The strong demand for natural resources will make organisations in this sector increasingly influential and important, possibly exceeding the power and wealth of the defence sector.

While added environmental concerns and higher resource costs will increase overall prices, they should also lead to more rational purchasing behaviour, although investment in the development of new, sustainable



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Review of Global Markets (contd.)

resources will be critical. A US President – from oil-rich Texas – has already announced that the country must cure its addiction to oil and rely on clever technologies in the future. Similar statements have been made by China.

Oil will become less critical (as a fuel, although it will retain for longer its importance as an industrial feed stock) as new technologies and alternative power sources (solar, wind, nuclear, bio-energy, &c.) are used more, while fresh water will become a strategic liquid resource of the future. In this strange new world could wood, as a major renewable resource, become the new gold?

Despite its displacement in many applications by new materials, steel will remain a vital requirement for manufacturing industry. We have already seen China's demand for the metal driving up world prices, including those of scrap. This trend will continue, encouraging greater attention to re-use and re-cycling of products made of iron and steel.

Critical natural resource constraints will shift the balance of global power. Areas such as Africa, South America, Australia and Russia will benefit politically and economically. In the same way, a lack of natural resources could economically constrain both developed and developing countries – for example China and the US (oil), the Middle East and Europe (water). Resource-poor areas will have a major incentive to fund R&D and invest in external resources (as in the case of China, which is buying extensive overseas resource assets). Even then, logistical bottlenecks may add extra cost and put pressure on the world trade system.

These constraints and added costs will have important implications for relationships at country and organisation level. In the future, collaboration at regional, state or global-corporate level, rather than competition, will come to be seen as the best way to develop and maintain resources (as we have already noted, with India and China jointly investing in oil exploitation).

While natural resources face pressures due to lack of supply and logistical difficulties, human resources present a different set of

challenges. Emerging (or newly emerged) markets in Asia and Africa will continue to supply low-cost workers in large numbers and provide bases for manufacturing. However, better education and the results of investment in technical training and R&D will mean that these markets will in future also provide high value-added services, currently supplied by developed markets in the West.

In the professional and high value services sectors these new economies will continue to present cost advantages as Business Process Outsourcing (BPO) develops into fully-fledged Knowledge Process Outsourcing (KPO). R&D, design, architecture, legal and other services will all be affordable and available worldwide, from Chongqing, Chennai and other 'far-off' cities using ultra-broadband links.

Competition for human resources will become global, rather than local or national, and more and more employees will be outsourced or hired on flexible terms, with teams operating in widely dispersed locations.

Looking to the future, managers will work in an environment where cultural understanding (corporate as well as national), language and relationship skills will be as important as IT and technical skills are today. Complex collaboration and management at a distance will be essential parts of daily life. But will we be prepared?

Costs

New technologies, global competition and the impact of emerging labour markets have pushed down prices and we have become used to having cheaper mobile phones, computers and all sorts of wonderful, life-enhancing gadgets. However, some things are moving in the other direction - you will be getting a hefty gas bill soon and the car is costing a lot to run these days...

It is clear that the focus of the world economy is shifting to emerging power-houses like India and China. As these countries develop their industry and infrastructures, and as their enormous populations urbanise and become consumers,



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Review of Global Markets (contd.)

demand on global resources will reach new heights.

Traditionally the sources of our low-costs goods, but increasingly of the high-tech ones too, these economies are now providing serious competition in the hunt for resources, which is likely to lead to serious supply constraints and price increases. China is the biggest importer of many resources and has driven prices for iron ore, copper and other materials to all-time highs. This trend will have serious cost implications for industry and for consumers and major impacts may be felt in unexpected areas: Water? Wood?

While non-renewable resources are a finite, tradeable commodity, we will face different challenges in human resources. Rather than facing a shortage, here we confront possible oversupply and very fluid markets.

In developed markets it is likely that the cost of employing people will increase due to high compliance and social costs. At the same time today's developing economies will still be providing low-cost unskilled and skilled labour at massive savings – even allowing for increased costs brought about by better educated workforces and higher expectations of standards of living. On the other hand, automation may reduce the comparative advantage of low-cost bases, enabling manufacturing to be brought closer to the point of delivery, avoiding high transport costs (driven by increasing fuel prices) and distribution bottlenecks.

The cost advantage is already extending from manufacturing and low-skilled jobs into professional services and technology as better, cheaper communications erode delivery barriers. However, we expect labour costs to increase with rising worker expectations and greater labour protection, while compliance costs will be driven by new 'world laws' and the policies of global companies.

These trends may focus more advanced economies on the need for rational use of resources, on technological innovation in order to remain competitive and on investment in skills training (language, cultural sensitivity, communications,

collaboration, IT etc.) to ensure executives can work effectively in the new world.



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Impacts on Business relationships

The next decade and beyond offers a complex and shifting vista of relationship challenges as globalisation and technology draw the business world closer, while increasing the chance of conflict on many levels. Human interaction is the cornerstone of business and, in projecting these challenges in to the future, the clear conclusion is that strategic business thinking must build on a foundation of relationship management in order to control and to use effectively the proliferating technology.

As we evaluated the possible future impacts of globalisation, looking at the latest trends and developments, certain underlying factors come strongly to the fore as ones that will

impact on all business operations and on growth and stability. For the business community economics alone will be less important than the influence of these factors, which will set financial agendas. Tomorrow’s business leaders will face a trading arena in which the divisions and boundaries of today have substantially disappeared, to be replaced by a constantly evolving environment.

These underlying factors will be major drivers for business. Their impacts will lie on a range between extremes that we identified and the challenge for the business community will be to understand the effects of the drivers and how to use them to achieve sustainable growth and flexibility in a dynamic market place.



Extreme	Underlying factor	Extreme
<i>Homogenisation</i>	Culture	<i>Polarisation</i>
<i>Plentiful</i>	Resources	<i>Scarce</i>
<i>Open</i>	Government - politics	<i>Restricted</i>
<i>Balanced</i>	Skills development	<i>Unbalanced</i>
<i>Effective</i>	Communications	<i>Ineffective</i>
<i>Stable</i>	Security	<i>Volatile</i>
<i>Supportive</i>	Ethics	<i>Individualistic</i>

These factors bear a strong relationship to the Six Dimensions of Globalisation, introduced in the Executive Summary and also to the the STEP tool often used in business analysis (Social, Technology, Economic, Political). With the range of effects that can result from them, they will be of fundamental importance in setting corporate strategy for the future. The following sections illustrate how this can be approached.

Cultural sensitivity becomes an essential business skill

Feeding a melting pot of cultural diversity, the opening of markets and growth of new economic power bases is likely to see polarisation and protectionism in some regions and greater cultural homogenisation in others - particularly in regions dependent on overseas products, services and resources. New, or newly reinvigorated, cultural and religious networks will increasingly override national boundaries and structures. This spectrum of cultural differences will be a

significant challenge to the trading community in terms of developing multi-cultural business understanding and recognising potential clashes.

Relationships within this arena may require corporate values to be redefined if cross border trade is to be exploited. As the relevance of fixed points of reference between traditional national and corporate cultures declines, the focus will be on understanding others, enhancing trust and developing mutualities of interest, sharing certain values while respecting differences.

Attempts to exploit short-term advantage may catalyse longer-term cultural backlashes. Even as ethnic borders and boundaries become less well defined, cultural networks could become the economic drivers of the future. Understanding of the nature of interdependence, and adaptability based on shared goals, must be the hallmarks of business leaders in 2020, as today’s provider often becomes tomorrow’s customer.

“... New, or newly reinvigorated, cultural and religious networks will increasingly override national boundaries and structures ...”

Impacts on Business relationships (contd.)

Cultural barriers as significant as political or national boundaries

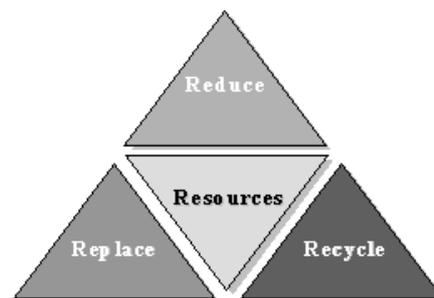
Market stability is usually seen as necessary for healthy business growth. However, the closing decades of the old century and the first few years of the new have seen the creation of new dynamics in the political arena, displacing some established global power brokers. The economic battleground is as uncertain as traditional political and religious fields of conflict. The growth of new economic superpowers will in time increase stability through the interdependence of trading models. However, it is possible that borderless ethnic and cultural groupings will generate instability. This may lead to collective multi-national boundaries (such as the border surrounding the EU) being reinforced for security, hampering cross border trade and at odds with the growth of economic globalisation. Regulatory imbalances, perhaps introduced in the name of sustainability, may increase the pressures on businesses.

Complex interactions resulting from these trends must impact on business strategy. Medium to long-term investment profiles will be strongly influenced by perceived political risk and the scope for regulatory barriers to constrain development. Trading across national and fluid cultural boundaries will be an increasing challenge to the business community. Relationships will be just as bankable as hard assets. Stability of supply will strongly influence investment strategies and relationships, from producer to consumer through the value chain, will govern growth and business planning.

Resource scarcity as a limit to growth

Growing global demand for resources, including raw materials, energy and skills, should be a major area of concern for the business community in the coming decades. Energy will stay high on the agenda but an equally important prerequisite for economic development will be water. In many industrialised regions the supply of fresh water is already a significant challenge and for the developing world it is a major constraining factor limiting capitalisation of local capability and socio-economic progress.

The adoption of sustainable thinking by the world business community is essential for future development. Meeting this challenge will require effective relationships across economic and social communities and collaborative developments: to control the demand for resources; to develop alternative technologies replacing traditional resources; and to ensure the effective re-use and recycling of materials.



Skills development will be crucial

As world population growth slows, apart from imbalances caused by wars, famine and epidemic diseases, many countries will join the West in having ageing workforces. Already to be seen in China, this will place heavy demands on the development of human resources. Limitations of mobility and low basic skill levels will continue to constrain development in some countries, which may increase demand for globalisation of production. The skills bottleneck will be a constraint in the short to medium term but demand for natural resources will inevitably rise once local requirements increase. Balancing demand and capability between the 'haves and have-nots' will require effective relationship management across a broad range of business, regulatory and social communities. In particular the business sector must weigh short-termism against long-term sustainable programmes of education, development and investment in new technology.

Established economies will experience continuing skills shortages, partly due to demographic factors, while demand for skills and education will be boosted by pressure to accelerate development in the emerging economies. As global competition and globalisation drives greater investment in overseas production, the need for skills transfer increases. This has to be balanced against the dilution of the existing knowledge and skills base, and the likelihood of training the next generation of competition.



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Impacts on Business relationships (contd.)

Advances in technology must be attuned to the skills and capabilities of regional labour forces. Bridging the digital divide will not only help the developing world to benefit from innovation, in many cases it will be a prerequisite for individual business development programmes. However, relationship management will remain a cornerstone of business success, even for the integration and use of technology.

Thus, given the environment of extensive outsourcing and global business diversification, business relationship management can be seen as the key skill required to operate effectively outside the old command and control structures. Recruitment and training of tomorrow's managers must concentrate to a greater extent on collaborative skills and values, in conjunction with language and cultural understanding.

Communication must focus on effectiveness.

Communications technology will continue to develop at an explosive rate and will penetrate deeper into global communities - particularly in the developing regions. Facilitating greater opportunities for globalisation, it will also create a thirst for knowledge and increase aspirations among the people of these regions. As we saw following the collapse of communism and the break-up of the former Soviet Union, better communications may lead to conditions that increase unrest and instability. Although key to future advancement, better communications can result in a political or cultural clash between the desire to open physical boundaries while restricting access to information. Generally enhancing cultural awareness and understanding, the growth of global travel and tourism is an added dimension.

The free flow of communications across national and cultural boundaries, coupled with security of information, will be a major future challenge to the business community. The conflict between access to information and the protection of intellectual property will provide an increasingly complex trading environment. The vulnerability of organisations to rapid communication of negative publicity and to poor information

security will complicate business models that are based on collaborative networks.

The speed of communications and the ability of organisations to share knowledge and react rapidly to change will tend to engender distrust between multi-national businesses and smaller, less influential countries. Emerging countries with national incomes at best comparable with the turnovers of global corporations may see cause for conflict between global brands and local political aspirations. Paradoxically, pervasive communications technology will need to be managed carefully to avoid eroding trust in technology and information.

Security the foundation of business stability

Achieving market growth while maintaining the security of investments will remain a principle driver for business strategy. The weakening of traditional market boundaries, the emergence of localised geo-political enclaves and of more radical borderless elements will create a business environment demanding greater flexibility in investment plans. Shifting markets and power bases in these multiple communities will bring more likelihood of instability and increase the need for effective risk management.

Within this complex global environment the ability to develop and maintain effective business relationships will be a significant success factor. Trading relationships have always been essential for the business community, but the interdependence of organisations and their value chains will make them increasingly vulnerable to a variety of threats. This will stretch organisations that rely too heavily on contractual interfaces, and those seeking outsourcing and off-shoring opportunities.

Future terrorist actions may take physical or electronic forms. Businesses will need to maintain secure trading platforms, with alternative operating and sourcing models, to ensure operational continuity. However uncertainties are bound to affect markets and provide a complex arena for relationship management.



“.....the ability to develop and maintain effective business relationships will be a significant business success factor”

Impacts on Business relationships (contd.)

Corporate social responsibility, ethical trading offer growing challenges

The trend towards visibly effective corporate responsibility programmes will continue. This, with increasing regulatory demands on organisations and growing consumer pressures, will increase the need for collaboration and confidence-building across the global trading community. Although organisations will build interdependent competitive global supply networks, shifting cultural and geo-political influences will constantly challenge the business community to demonstrate its good faith.



“.....Collaboration between business, regulatory and societal communities will grow, in parallel with the transmission of values across corporate boundaries”

Translating and maintaining corporate visions and values across a diverse trading environment will present a broad range of risks for networked business communities. In building propositions and managing risk, relationship management will be a crucial ingredient for success - for instance in demonstrating adherence to 'ethical trading' when trading across national, cultural and political boundaries.

Collaboration between business, regulatory and societal communities will grow, in parallel with the transmission of values across corporate boundaries. Effective programmes incorporating elements of corporate responsibility, sustainable development and ethical trade will not be achieved without relationship management providing an integrated approach to these three communities and engaging providers and consumers in a balanced manner.

The 'Good' scenario

The date is 31 January 2020. James Leith, leader of the UK Centre Party and President of the European Congress for the next two years, is delivering a welcoming speech before the European Congress to the visiting Secretary General, Xiao-Xiao Zhang, of the recently combined United Nations World Trade Organisation or UNWTO. Mr Leith is reviewing his speech and personal notes, which can be identified as the italicised text included in brackets (i.e. [...]). The intention of this speech is to re-iterate the commitment of the EU and all its member nations to supporting the UNWTO both financially and politically.

“Madame Secretary General, most honoured guests from UNWTO and my fellow Europeans, I ask you, what do libraries and my countrymen’s beloved British Sterling have in common? Both can now only be found in “remember when...” and “when I was young” stories - well and perhaps on-line. Today electronic libraries have largely replaced their physical predecessors and British pound notes can be purchased for nostalgic purposes in Euros on ebay.co.uk. It’s 2020 and we are a globally integrated society. Virtual reality is the most common medium to communicate information and make transactions. We live today in a society no longer dominated by one superpower but by several powerful alliances [do not use the term, 'blocs' - sounds too much like 'blockades' !!] joined together in pursuit of the betterment of society overall. It is the dawning of a new age, more balanced and unified. Sovereignty is respected but is no longer allowed to hide unacceptable acts or practices. There is a will in the vast majority of nations, unprecedented in history, to conform to the norms and laws, economic, humane and environmental, deemed appropriate by the international community.

Energy

“According to the U.S. Census Bureau, today’s world population is approximately 7.2 billion. Most of the increase since 2000 has been in the developing countries of the east and south, and the majority of that growth has been in cities. Cities need energy to prosper and today’s massive conurbations, whose populations – I am pleased to say - have rising disposable incomes and growing expectations for services including power and transportation, are depleting the world’s energy resources and continuing to generate

the gases that are causing global warming. Oil, still our most precious natural resource, although now traded Euros, not U.S. dollars [much to the U.S.’s chagrin], is not the fuel for the future. European governments and private companies have been at the forefront of R&D over the last couple of decades developing reliable, cleaner burning, less expensive and more plentiful sources of energy and fuel. Today, we can be proud in Europe that large numbers of the cars on European roads are powered by bio-fuel or hydrogen.

“It has been only eight years since the stunted Kyoto Protocol was replaced by the more stringent but fairer New Delhi Protocol, which has inspired more innovation than argument, and fewer vouchers but real reductions in greenhouse gas emissions. [The U.S. is still not being entirely co-operative, I must remember to schedule a call with President Blane].

“In addition to the E.U.’s prominence in renewable energy technology, nuclear energy has re-emerged as a major energy source. Seen by some as a step backwards, we know, and can see, that today’s nuclear power stations are safer, more efficient and produce less waste than those built in the last century. Again scientists in the UK and EU have led in making this revolution possible and I think I can date the nuclear renaissance from the publication of the UK Energy Review in the summer of 2006, which recommended a limited replacement programme for Britain’s ageing nuclear power stations. At the time the workforce of nuclear engineers was ageing too and the UK and other EU governments partnered with private industry to work quickly to reverse this decline. At first importing experts from throughout the world, we also provided incentives for young citizens to study physics and nuclear engineering and developed indigenous expertise. [European industry must be weaned from public subsidies].

“In the UK and Europe we have also pursued vigorously a programme to produce a step change in energy efficiency across all sectors and to use micro-generation of electricity and many more combined heat and power projects. These measures have decoupled European economic growth from



“...We live today in a society no longer dominated by one superpower but by several powerful alliances joined together in pursuit of the betterment of society overall...”

The 'Good' scenario

energy consumption for the first time in human history. With our widespread adoption of wind, wave, tidal and biomass energy we have been able to achieve our carbon reduction targets and to set much more ambitious ones going forward to 2050.

The environment and sustainable development

“Another problem that is high on my agenda, and that of other European leaders is that, by 2050, clean drinking water may become the planet’s scarcest commodity. Within Europe, despite national and region-wide campaigns to restrict water wastage, our appliances of convenience and bad water usage habits are draining our reservoirs. Beginning this summer, the E.U. will introduce the strictest guidelines yet for the household and commercial sectors, which will apply to new appliances, new buildings and refurbishment. For example, new commercial and apartment structures must use technologies to re-cycle ‘grey water’ - that is trapped rainwater - for many of their water needs. Europe is again at the forefront of creating and implementing sustainable technologies.

“It should be clear that European governments are committed to the idea of sustainability – of ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’. We have not overlooked the social aspect of sustainable development and have always focussed on ensuring the benefits of our investments in new energy technologies improve the lot of our less wealthy citizens. We have boosted the economies of our disadvantaged regions by situating new plants strategically, providing jobs and reinvigorating many communities.

“Increasing wealth, Madame Secretary General, is of little value if we are still beset by illness and disease. It is for this reason that European governments, pharmaceutical companies and medical professionals have all committed to WHO initiatives to combat actual and potential pandemics and epidemics, and to address the diseases of poverty, regrettably still prevalent in parts of our world. In 2007, medical professionals and researchers through their efforts on WHO’s panel for bird flu, ensured that this disease remained isolated and did not develop

into a world-wide tragedy of a scale similar to the influenza pandemic of 1918. We have seen steady progress, still requiring tremendous amounts of time and money, in combating HIV/AIDS. Recently, collaborative efforts with Asian and American scientists have resulted in a potential HIV-1 therapy that appears to paralyse the viruses ability to replicate, reducing some patients’ viral loads to virtually nil, allowing rejuvenation of their normal immune system. Further information about this medical breakthrough will be available soon.

The Economic Agenda

“The Euro is now the major world currency for trade, demonstrated as the Euro Zone extends far beyond the E.U. itself. [And Britannia has reaped many of its rewards as one the E.U.’s most influential members]. Reforms over the last twelve years have consolidated Europe’s position as one of the three most powerful economies. Fairer and more reasonable agricultural and trade policies have strengthened individual E.U. member countries’ economies and promoted growth while simultaneously improving relations abroad through bi-lateral and multilateral agreements.

“As if to demonstrate this, the UK-based global retailer Tesco has overtaken Wal-Mart, from the US, as the international one-stop shopping mega-store. From London to Istanbul, from Buenos Aires to Chongqing, the blue, red and white Tesco signs are so ubiquitous in the world’s ever-expanding suburbs that neighbourhood planners include Tesco stores in their preliminary designs. The similarity of preferences and demands across our super-connected world have meant not only big profits in Tesco’s retail sector, but have also in its personal and disaster insurance operations, where it has partnered successfully with RBS/Deutsche, the largest banking and insurance provider in the world. Multinational, diversified, mega-corporations through their strategic alliances have overtaken many local or regional specialised counterparts, in Europe as elsewhere, further bolstering the economy of the E.U. However we do not see cartels or reduced competition. Rather, European multi-nationals partner locally and regionally to ensure local brands and produce are supplied to their customers; and the last fifteen years have seen the rise of networks of



“...Europe today is truly integrated with a focus on the future and the global economy. ...”

The 'Good' scenario (contd.)

small local companies in alliances that use the power of global connections to compete on level terms in world markets.

“With global shifts in economic drivers we have seen manufacturing largely leave Europe for the booming cities of Asia, South America and now Africa. We are pleased, Madame Secretary General, to see the newly wealthy, upwardly mobile and aspiring middle classes of China, who number in total about the same as the entire population of our continent, visiting our shores in increasing numbers. I can point to the 8,000 berth super-cruise liners MS Prince Harry and MS Prince William, recently put into service by Hai Win Cunard Shipping, mainly for the Chinese market for European cultural, shopping and golf cruises.

“In Europe, we maintain our pre-eminence in certain areas of high-technology manufacturing, and high-value-added services, by continuously innovating. This can be seen in the way that we have addressed what we used to call waste processing over the last ten or twelve years. We now have in the UK alone nearly 300 large resource recovery facilities. These are the hubs of new value networks for re-use, re-manufacture, recycled resources and energy. It is from these facilities, Madame Secretary General, that ships leave carrying

high quality raw materials for the factories of Asia; and 10% of the UK's energy comes from refuse-derived fuel.

In Conclusion

“The E.U.'s economic, environmental and technological gains over two decades are promising. We continue to strive to invest more in research and to improve education and health care, which will benefit not just Europe but the whole world. Europe today is truly integrated, focusing on the future and the global economy. [Of course, Our rapidly ageing populations are becoming a greater burden than initially realised – we must increase retirement age again and stimulate birth rates]. We welcome open relations with all of our global neighbours. *[Though trade with China is still lop-sided in its favour, I wonder what if anything the UNWTO will do about its trade barriers?]* Sustainability is the basis for all of our policy-making and we strive to take long-term view of all of our actions.

“I thank you Madame Secretary General for your time and look forward to working with you at the UNWTO. My fellow Europeans and honoured guests, the floor is now open to questions...”



“....We now have in the UK alone nearly 300 large resource recovery facilities....the hubs of new value networks for re-use, re-manufacture, recycled resources and energy.”

The 'Bad' scenario—New World disorder

To the Chinese, 2020 A.D. is 4718, the Year of the Rat. In the Islamic world it is 1441 A.H. (Anno Hijra) and according to the Jewish calendar we are in the year 5780. Although the Gregorian calendar is used globally for business and technology, in most respects the world is divided along sectarian and ideological lines. Fundamentalists and extremists - Christian in America and Europe, Muslim in the Middle East and parts of Asia, Europe and Africa, Hindu in India - are dominating the political agenda. China has replaced the United States as the main superpower and democratic freedom is off the agenda in most of the world. Civil unrest is found in most of the world as greater inequality and competition for scarce resources have combined to polarise societies and encourage protectionism.

In the UK, failure of the far right to unite has so far prevented them becoming a big player in conventional politics, but the Muslim Brotherhood dominates local government in the Midlands and parts of northern England, whether directly or in partnership with other parties. No single party can form a majority national government and, because of this leadership vacuum, opportunism and corruption abound in public life. The European Union has become weaker since 2015, having expanded into the Balkans and Turkey and been unable to contain the sectarian divisions that grew in response to the economic hardships during the Great Global Depression of 2009 – 2018. Nevertheless, its members still find the EU a useful counterweight to global corporate power and Chinese politico-economic clout, representing as it does some 665 million people, or more than 9% of the world's population.

After the U.S. economic disaster in 2009, when the Federal Reserve had tried to reduce its balance of payments deficit by stealthily increasing the money supply, China and Japan dumped their large stocks of Treasury Bonds, causing the dollar to collapse and triggering The Great Global Depression. America was further weakened by a series of catastrophic natural disasters: in 2011 a major earthquake in destroyed Los Angeles and caused Silicon Valley to flood; and in 2012 an eruption in the Canary Islands sent a tsunami across the Atlantic to devastate the eastern seaboard. China then took charge of the International Monetary Fund and bought up many leading global corporations cheaply,

especially those with mineral rights and valuable intellectual property.

In place of effective government, large corporations dictate economic policies and development. These corporations are mostly Asian owned. Despite the efforts of the Chinese superpower, many factional groups and global companies to control the content of the global communications networks, these media are key to the rise of powerful trans-national pressure groups.

Internal tensions, driven by the same sectarian, regional and religious divisions active across the world, are threatening the stability of China and India. However the increasing prosperity generally in these countries and their burgeoning middle classes in particular has so far counteracted the divisive forces.

Environmental deterioration is causing widespread hardship: safe drinking water is rationed, yet flooding has devastated large areas of previously inhabited and arable land. The climate has become increasingly volatile owing to the large scale melting of the polar ice caps, and damaging storms have increased in frequency and strength. At the same time, desert areas have increased in size as rainfall patterns shift. Because of these evident dangers, global co-operation on measures to slow environmental degradation is taking place, one of the few remaining international political agreements. However in this, as in most areas of life, the role of partnerships with the large corporations is as important as national or regional politics.

At the 2020 Annual General Meeting of ARA Inc. (Airline Rail Alliance) the Chief Executive, Mrs Jesmond provides shareholders with an overview of the challenges faced by the corporation and how its alliance structure has enabled them to meet dividend expectations despite a volatile global market place.

“I cannot deny that results in the high-volume passenger sector of our business have not been up to expectations. The main reason for this has been the continued weakness in the vacation flights market. Holiday travel has continued to reduce as people vacation at home due to costs and



“...China and Japan dumped their large stocks of Treasury Bonds, causing the dollar to collapse and triggering The Great Global Depression ...”

The 'Bad' scenario (contd.)

security concerns. We have had some success in limiting the impact of fuel price rises by our partnering arrangement with the new Russia Energy Consortium - despite their overall rationing programme for Europe; which has been in place ever since the 2012 winter freeze dispute (when all pipelines were shut for three months, which I am sure we all still recall vividly).

“We have further addressed the issue of high prices caused by carbon taxes on aviation fuel produced from non-renewable sources by investing in sustainable forestry projects. These projects have been carried out in partnership with national and international NGOs and national governments to ensure that they contribute to appropriate sustainability objectives.

“I think I can say that our close collaboration with national and international bodies on flight security has been second to none, however our customer relationship management team still finds that passengers are deterred from flying by security demands as terrorist threats have continued to increase; by the presence of armed flight attendants; and by consequent airport delays.

“On the other hand, our alliance with Islamic Airlines has enabled ARA to operate in many countries that are now no-go areas for most western companies. While ARA still services US main centres, US airlines withdrew from international flights to non-aligned countries following the isolation charter of 2018. This is just a part, albeit a major part, of ARA's global alliance programme with national airlines to provide greater accessibility to international airports across the globe. We have also introduced Relationship Managers working locally to overcome collapses of international flight agreements. These measures have enabled us maintain highly competitive and rapid services for business travellers from European hubs to the key industrial and financial centres in China.

“ARA has maintained cordial relations with a number of secessionist leaders in India and China (only those opposed to violence, of course). Should any peaceful transition to more devolved or federal systems of government in these countries occur, ARA will be well placed to carry on the

relationships we have established. This is not to say that ARA does not continue to support the established administrations in these countries and we believe that they are the best placed to deliver stable government to the benefit of their peoples and the world.

“In contrast to our passenger air travel division, our integrated freight operation has experienced satisfactory growth this year, exceeding first quarter predictions. This is because we can offer air-linked rail distribution centres that can both reduce our customers' road charge overheads and provide fast city centre to city centre transportation, despite the urban over-flying bans introduced after the repeat of 9-11 on the Vatican.

“As I predicted two years ago, the EU green tax has now forced the consolidation of all European airlines. The last of the 'budget' operators has now disappeared after the fly-over tax directive and rail subsidies protocol of 2017 made their business model unsustainable. The rail sector of the alliance has enabled ARA to use key hubs in Eastern Europe for global travellers. On the freight side, these hubs enable through-value-chain rail-air logistics integration supporting just-in-time links between low cost producers and consumers and we are keen to encourage our customers to form alliances to benefit fully from these possibilities.

“In all, I am happy to report continued annual growth and the best year in the relatively short history of ARA. Next year promises to be better still, as our new partnership with US/UK Armed Forces, announced last week, develops. We will be providing integrated global theatre logistics support and transport for peace keepers and materiel up to the edge of zones of unrest. On the level of more individual service provision I can announce that discussions with a major world provider of personal, freight and high-value property security are at an advanced stage and we expect soon to announce a new partnership to deliver door-to-door security for individual travellers and goods across our global network.”



“...we can offer air-linked rail distribution centres that can both reduce our customers' road charge overheads and provide fast city centre to city centre transportation...”

The 'Steady Change' scenario

March 2020

From: Mr Ling Po, Director Strategic Alliances, Chinese Aerospace Technologies, Guangzhou

To: Mr Bill Smith, Bulldog Aerospace Ltd, London

Dear Mr Smith,

Thank you for hosting our delegation at your Defence & Security Sales Exhibition earlier this month, there was much on display that was of great interest to us. I found your presentation on the global security environment a highlight of the event. However, in our view, strategic scenario planning should be tempered with a broader historical context, to add the necessary balance and proportion when evaluating change and continuity. As The Economist said:

‘The supreme difficulty of our generation...is that our achievements on the economic plane of life have outstripped our progress on the political plane to such an extent that our economies and our politics are perpetually falling out of gear with one another. On the economic plane, the world has been organised into a single, all-embracing unit of activity. On the political plane, it has not only remained partitioned into sovereign national states, but the national units have been growing smaller and more numerous and the national consciousnesses more acute.’

...a quotation that often has modern audiences nodding in agreement – although it was published in October 1930!

Chinese industrialists often feel that western business strategists are too preoccupied with the surface appearance of change, while failing to understand the underlying continuities. In Asia, we strive for knowledge of these longer-term trends, since they support more balanced decision-making and we know that their interactions can occasionally trip a major discontinuity, such as the global depression of the late 1920s and early 1930s. As your Mr William Shakespeare reminded us in Henry the Fourth Part II – ‘Oh that we could read the

book of fate / And see the revolution of our times!’

When we met to review our joint approach to the Chinese Military’s Defence Information Architecture 2040 opportunity, you asked for an overview of Chinese Aerospace Technology’s assessment of the current world situation. I have provided an outline below and would appreciate the opportunity to discuss this further when you visit us next month to undertake our Alliance Accreditation Programme (it will make our Alliance with Bulldog Aerospace Ltd so much stronger now that you are adopting the Asian Standards Institute’s AS11000).

Chinese Aerospace Technology’s assessment of the current world situation

Overarching Trend - Globalisation

In 2020, globalisation remains the key and irreversible trend, which has continued to take on more of a ‘non-Western’ face. Three billion new capitalists in India and China have helped to drive the global economy to become 80% larger than it was in 2000, with per capita income now generally 50% higher. Brazil, Indonesia and others are playing an increasingly important role in the global economy. Occasional currency crises in emerging market economies have had severe social and economic consequences and the regulatory mechanisms governing globalisation remain weak. We failed to heed the lessons of the 1997 Asian currency collapse sufficiently. However, the process of globalisation is still remarkably benign and, all things considered, effective.

Rumours of the death of the U.S. dollar have proved to be greatly exaggerated and it remains the global currency, since fossil fuels continue to be the most important energy source and their trade is inextricably linked to the dollar. ‘Made in China, serviced in India’ is becoming ever more the reality and, with global industrial standards now routinely driven by Asian markets and agencies it is surely only a matter of time before the dollar era is ended.

The flow of Asian savings to U.S. financial



“...Rumours of the death of the Dollar have proved to be wildly exaggerated and it remains the global currency...”

The 'Steady Change' scenario (contd.)

markets has slowed gradually rather than catastrophically. China's strong dollar reserves continue to give it enormous leverage in Washington and led to China defending the dollar against growing dissatisfaction from OPEC, Russia and others. Nevertheless, the writing is on the wall – poor U.S. economic performance was masked for many years by foreign investment funding massive US trade deficits and excess domestic consumption - even as an ageing population and the growing problems of pensions, welfare costs and a lack of savings laid the foundations for long-term decline.

The tendency for globalisation to favour the developed world in the 1990s and 2000s has waned and markets are now oriented eastwards. Competition between China and India for energy supplies and markets has driven further growth and innovation. Though Washington and the EU doubted our political ability to weather our recession in 2009-2011, they had underestimated the resilience of our domestic markets and the spending power of our burgeoning middle classes. In our turn, we perhaps underestimated the speed with which our economies could replicate western weaknesses. Wage inflation in India and China has led to jobs being exported to Brazil, Indonesia and other emerging economies and, in China, our former 'one-child' policy has returned to haunt us.

On the more positive side, water filtration and biotechnologies have eliminated some of the effects of the direst poverty. NGOs are playing a major role in driving better political and social conditions for many poorer countries.

How new is globalisation? The ratio of external trade in goods and services to gross national product appears in major western economies to be much the same now as it was in the 1890s, when a world-wide capital and credit market centred on London underpinned the key elements of economic interdependency. The free movement of industrial capital and of labour was more real then than now, as immigration, work-permit and employment legislation were more relaxed. What changed considerably over the following century was the economic role of government. The ratio of taxation to GNP throughout most advanced countries

has risen from 10-15% to 50-60%. Complex, intrusive and cost-imposing bureaucracies still predominate: the global economy is more liberal now, but the role of government remains strong.

Geo-politics and Security

'Islands of stability amidst seas of instability' remains a fair description of the geo-political environment. Africa exemplifies this best, resembling a patchwork quilt with vastly differing economic and political performance. Although existing state boundaries are firmly imprinted, more people now are defining themselves by ethnic or religious origin rather than national identity. There has been no caliphate declared, but this remains a possibility. Extremism continues to foment terrorism in many regions, requiring a differentiated approach by Asian and western governments alike.

Growing economic integration favours the majority, but this is offset by significant minorities whose lives are still characterised by exclusion and poverty. Lawlessness, corruption and organised crime prosper: for example, in Russia the value of energy resources has not yet been fully realised – benefits have gone to crime cartels as much as to the government and people.

America's 'Army After Next' is becoming a reality, but it seems like a sledgehammer looking for a nut to crack. The ability to project power has outstripped Washington's capacity for decision-making, while proliferating asymmetric threats fail to offer clear targets. Europe's strength has been in providing a model of global and regional governance for the rising powers. If the first few years of this century featured American 'drive-by colonialism', then the last decade has been characterised by the EU's 'drive-by governance'. Many of the areas being counted on to provide increased energy resources involve substantial political or economic risk, but the EU has done little to alleviate America's global security burden.

Japan, China and India are modernising their military and security agencies and their ability to leverage 'spin-on' technologies from the commercial sector is a powerful factor in this process. Japan is beginning to be an activist in global security operations,



“...Growing economic integration favours the majority, but that is offset by significant minorities whose lives are still characterised by exclusion and poverty...”

The 'Steady Change' scenario (contd.)

and China's recent commitment of logistics troops to UN operations in Nigeria is a portent for the future. This is only right and proper and Washington's assertions to the contrary are beginning to isolate the U.S. Although the US remains the only superpower, it is now possible to envisage this changing.

International terrorism threatens everyone. Lagging economies, ethnic conflicts, intense religious convictions and youth bulges combine to make hotbeds for terrorism in many places. Economic stability and well-being should deprive terrorists of their recruiting sergeants, but a total cure is difficult to envisage. Information technology favours the terrorist and biotechnology will give them weapons of widespread slaughter in time. The true defeat of terrorism will involve a level of co-operation and political maturity that still lies beyond us.

Organised crime continues to beset both the developed and developing worlds and has been only partially alleviated by major advances in international co-operation. Crime pays and the range of criminal activities is extending with the transition into the Information Age. In the past, organised crime fought for control of areas or activities, but now mirrors the legitimate service economy, with different groups contracting to provide a range of (illegal) services and benefits, based upon differentiated skills and competencies. It is unlikely to be associated too closely with terrorism, but offers an all too credible alternative to the spread of political stability throughout Africa, the Middle East, the Balkans, Russia and many other regions.

Demographic and Environmental Trends

The global rate of population growth is slowing and should stabilise by about 2045. Differing growth rates over the first half of this century will have had a profound effect – Africa's population was half Europe's in 1950, but is now almost three times greater. India is rapidly becoming the largest population, set to peak at around 2 billion peoples over the next 5-10 years.

Much of the growth in global population has

centred on urban areas, which grew from 32% of the world's population in 1985 to around 55% today (85% in South America). More than four billion people now live in the world's cities, which are no longer the engines of wealth, government and creativity they once were, with global unemployment in urban areas averaging 50%. At the same time, stagnant or declining populations in the developed world further concentrate surplus wealth. The difference between the fortunate minority and the remainder continues to increase and may be a source of instability. Massed migration has not yet materialised, but remains a possibility.

Urban growth and climate change have severely strained water supplies in many regions. Per capita supplies in the Middle East and North Africa would have been less than 15% of the global average, had this not been offset through advances in water filtration technologies. Global warming remains the most critical environmental issue, with rising sea levels now affecting Bangladesh, growing desertification and Israel beset by salination problems.

Technology and Access to Knowledge

The transition from the Industrial to the Information Age continues apace and is radically widening access to knowledge. Power has been defined as the product of wealth, military might and knowledge; and the knowledge factor in this equation is changing crucially and fundamentally. The wealthy and powerful have always been able to control the availability of information but, as knowledge is becoming equally available to the weak and poor, established power bases may be undermined and new ways of wealth creation (by fair means or foul) invented.

As the process of transition into the Information Age continues, knowledge is empowering individuals and interest groups and promoting the significance of human rights issues. Governments are having to meet the pressure of increasingly internationalist demands on domestic policy-making. Public opinion lends legitimacy to political decisions, yet public opinion is increasingly sensitive – even fickle – and open to both internal and external influences.

The West's love affair with 24-hour reporting



“...Crime pays and the extension of the range of criminal activities continues apace with the transition into the Information Age. ...”

The 'Steady Change' scenario (contd.)

continues. However, the news media mirror the tension between increasing economic interdependence and the fragmentation of national entities. Diversification, fragmentation and specialisation within the media, are eroding their collective power. Budget constraints, tightening editorial control and the decline of the specialist correspondent, tend to compound this trend. There is no collective agenda but, by effectively 'thinking global, acting local', the media leverage international political activity by providing platforms for a wealth of activist groups.

Looking forward

I have written of the need to consider the older, longer-term trends and continuities as well as the more rapid, surface changes when developing business strategy. You showed in your presentation that Bulldog Aerospace has a clear grasp of the nature of change occurring today. At Chinese Aerospace Technologies we would caution you not to forget the significance of a group of important themes that have been with us for many years and will remain with us for a good number to come:

- A framework of continuity remains: the basic characteristics of society will endure despite the complexity of the environment.
- Increasing global interdependence makes purely nationalist strategies less relevant. Developed nations and multinational corporations will find it in their interests to support efforts to increase global stability.
- The highly connected and networked nature of all human endeavours requires new tools for managing complexity.
- Government and institutions in the developed world are increasingly stale. New and more flexible structures are required – evidence that these are slowly developing is seen in the growing privatisation of government services.
- Technology is a primary driver of change and the pace of development is increasing.
- Oil is declining as the dominant form

of energy and must be replaced by around the middle of this century. This transition may well be turbulent.

- World economic growth is slowing down, as the increasing cost of energy, demographic growth and greater demands on resources take effect.
- The proliferation of weapons of mass destruction among smaller nations and groups poses a greater threat than that of nuclear war among the bigger powers.
- US economic and military hegemony is waning as other economies mature and as interdependence reduces the ability for any one nation to dominate.

Yours Very Sincerely,

Ling Po

Director Strategic Alliances, Chinese Aerospace Technologies

PS – I am happy to report that your eldest daughter is progressing well in our PR department on her gap-year work experience. It is good to see more and more western children working their gap years in China – but why do so few go on to do engineering, science or technological degrees? They can't all be PR consultants, reporters or politicians!



“The highly connected and networked nature of all human endeavours requires new tools for managing complexity.”

A day in the life of a virtual organization 2020

“Good morning, London,” John.Smith06 proclaimed, whistling tunelessly as he made his way on his ‘People Mover’ to the energy-efficient, pollution-free, Japanese-styled ‘bullet’ commuter train. It was 7am and this morning he could count himself amongst the morning rush hour crowd. John.Smith06 enjoyed these days. Since the government’s introduction of the quota system for companies in Greater London this was the one day a week he could actually travel into the city to make contact with people at the office. Yes, working from home had its benefits but it was good to meet his colleagues, or to make contact with anyone other than his two-year old twins. Thinking of the twins, John.Smith06 pulled out his mobile personal computing communication device or Mopec - the all inclusive, e-mail, SMS, telephone, GPS, tracking and entertainment system - to speak-in his daughters’ tag identifiers: Julie.Stewart-Smith05 and Janet.Stewart-Smith11. With a barely perceptible, but annoying, delay the location of his children at their daycare centre was found and their images displayed. His daughters, like most children, were enrolled at a daycare centre, where parents could monitor their activities using live feeds, but he still felt a twinge of guilt about leaving them in another’s care. His wife, Mary.Stewart29, was working abroad this month and so he had no alternative. Icons began appearing over the faces of his little ones on screen to indicate his morning news and work-related downloads were available to be viewed. With a sigh, he refocused his attention on the workday ahead. He waved his Mopec near the wi-fi pay point at the entrance to the train. His toll was paid, his cash and carbon credit bank accounts debited and his likely entry into the quota-controlled area of London flagged. The doors opened and he rolled onto the train.

This was the second year of his roll over contract and it seemed a long time ago when he actually was an employee. The days of permanent employment had gone but the

** John.Smith06 is John Smith’s formal identification tag. It is used to identify him for the purposes: electronic communication, government benefits, work, etc. Notably, this John Smith was the sixth person to be given this new identification tag (i.e. John.Smith through John.Smith05 were already assigned).*

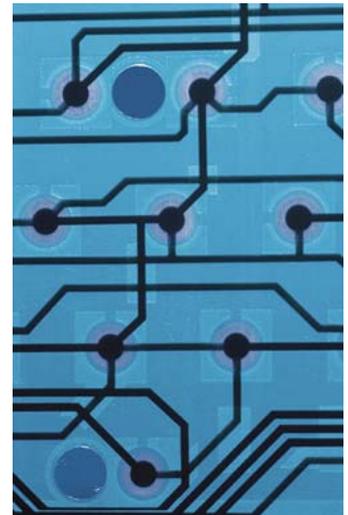
challenge for many like him was to keep adding value. Of course, if he could convince his lovely wife to have another child ... The government was now offering substantial monetary incentives and compensation packages for people to have children, given Europe’s declining population. He was only 56 and his wife was only 50. The average life expectancy in Britain was 92 and they still could have one or two more. Additional information downloads made themselves known and brought John.Smith06 back into the present and his task at hand.

During his 25-minute commute from Birmingham, he updated yesterday’s spreadsheets and had a face to screen conversation with a key supplier located in Mumbai, Saju.Gopal2200. Despite technological advances, there was never any doubt in John.Smith06’s mind that meeting suppliers face to face was still the best means to build effective relationships.

The train was half full thanks to the restrictions and premiums that had to be paid by the company for employees visit the office. His colleagues across the world did not all have the same problems but most would prefer to visit the office centre occasionally. With all other commuters on the train speaking to their Mopecs, John.Smith06’s conversations blended into the hum of business dialogues.

Emerging from the train, his Mopec was briefly interrogated by the exit pay point and details of his journey logged. The London security camera system picked him up for the first time that day and checked his Mopec ID details against the visual biometrics. The short People Walker commute from the station allowed him to pre-alert reception via his Mopec and, passing through the company security barrier, his coffee was waiting as he approached the lift. His identity having been confirmed on arrival, his desktop systems and video links were already powering up on the 42nd floor. The building was not throbbing as it once did. It was still difficult to comprehend that with so many companies in one building there were so few people.

He mumbled, “Good morning Suzy”, as he passed into the transit desk area. “Good



“...The days of permanent employment had gone but the challenge for many like him was to keep adding value...”

A day in the life of a virtual organization 2020 (contd.)

morning John.Smith06” was the reply from the voice recognition electronic secretary. “I have logged you into SWOT-NET “. The scene flashed and he reviewed the data displayed and prioritised. The advent of Swot-net had been perhaps the greatest of boons in recent turbulent times. This on-line news analysis programme could digest pre-selected news and market movements for as many as 2000 pre-set criteria. In his case as VP global supply relationship manager, he had it set for each country and supplier in the current network. Luckily, by next month, SWOT-NET would be remotely accessible – imagine not being able to access this resource using a Mopec, simply archaic!

At first glance there were no indicators that any variable of known significance had crossed any of his key parameters. This did not cause any surprise since the system would have notified him had there been any major change. The Brazilian elections had gone as expected so no change to strategy, interest rates and metal prices remaining within boundaries. Still no news on import tax adjustments from EU into Australia. He had been watching this closely as a change could necessitate production switching.

The Vidcom bleeped and Chen.Wu34500's smiling face appeared on screen, then disappeared then appeared again – the wonders and reliability of modern technology. “Morning Chen, any news before you log off?” This concept of “baton passing” had been a significant improvement in maintaining global visibility. The company was manned 24/7 and so was able to monitor events continuously and to allow for almost instantaneous changes to processing, marketing and even supply strategy. Around the clock management was no longer a competitive advantage but an industry standard; today’s integrated global economy brought new meaning to the old adage, ‘if you snooze, you loose’.

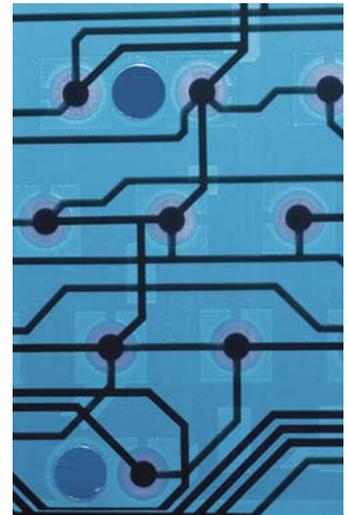
“Only problem was with our ‘partners’ in Shanghai. They had a storm last night and lost the uplink to the satellite - so they could not get the CNC code release for the first two hours of production. They managed to pick up the output as soon as it came back on-line, so India did not need have to be contacted for additional capacity.” The introduction of the release codes was a real

innovation to control technology leakage. After three hours the system would shut down altogether and wipe the data chip. It was one of the best ways to maintain control of the technology. Only once had he pushed the red button when a Beijing-based company bought out the Indian partner. Within seconds, the systems had wiped out all data, ensuring the proprietors of the hostile take-over would not gain access to secure information. “Thanks Chen you have good night.”

‘Your first appointment is waiting’, his Mopec indicated it was time for Adrian.Cohen56’s annual appraisal. This was always an interesting and valuable time. Although the stock analysts’ ‘people quotation’ was probably more of a driver for the company than for staff development. Developments in stock trading about five years earlier had given investors the ability to assess companies on how they perform in managing and developing their human capital.

Within the 15-minute allotment for the meeting, views were exchanged and new parameters set with a minute to spare. Specifically, they discussed future plans and training needs. They parted with a target to have Adrian spend six months in one of the partners’ production facilities. To develop a good relationship manager you needed to get hands-on experience. The cross-country training initiative made these programmes available to every company big or small. WBO (world business organisation) accepted two thirds of the cost. The only issue for John was his current exchange man from Peru, who was not coming up to speed as quickly as he had hoped. . With that minute of free time, John.Smith06 logged into his daughters’ pre-school cam.

The Vidcom flashed and John.Smith06 saw his Social Impact Consultant on the screen. “Global human rights organizations are focussing on child labour issues again and we have picked up a negative from one of our Pakistani suppliers. . There is no link to you but it is likely to result in some form of twitch in the market. Probably a good idea to contact your partner out there and reconfirm that he still has the funded education programme running.” The implications of being cited negatively on child labour always



“...With that minute of free time, John.Brown06 logged into his daughters’ pre-school cam.”

A day in the life of a virtual organization 2020 (contd.)

put John.Smith06 on edge. In the past year two multi nationals had seen billions fall off their share price because of the same problem, not to mention the individuals at the companies who were implicated, who found their pictures circulated around the global press as “Child Labour Offenders 1 through 29.” Until he appointed his SIC person John.Smith06 had always feared the same. Now she tracked whatever was happening in all the key areas and alerted him to possible problems so the company could float positive news and his personal stock would not depreciate.

The next message was equally disarming. Trans Freight Hong Kong, after the round of multiple mergers and acquisitions in the industry, the largest freight company in the world, had been handling transport on a global basis for the past five years. They had saved him millions by managing freight around the world through consolidation and counter contracts. John.Smith06 knew they also supported the competition (it basically held a monopoly, after all) but this had never created any conflict. In fact on several occasions, they had actually agreed to collaborate to their mutual benefit. But statements by Trans Freight and its few competitors have been predicting a need to increase prices, and now these cost hikes seemed inevitable. Despite all that had improved over the years, freight was still a must and the cost was always a budgetary topic of contention. . You could move production but you still needed to deliver to the customer from Johannesburg to Berlin. “What’s the problem Sanjay”.

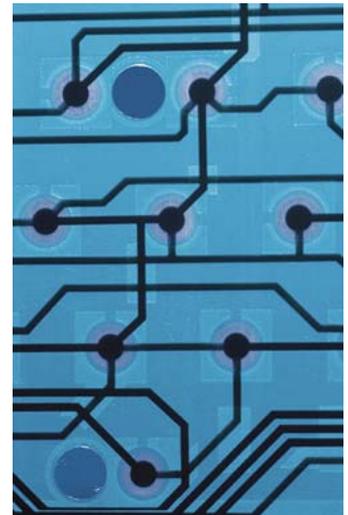
“The Chinese freight federation (Trans Freight Hong Kong) has just announced a boycott on non-federation certified ships. They have followed the World Bank recommendations to control rogue ships and crews handling WB funded contracts.” The impact of this change was immediately apparent as John.Smith06 tapped in the risk parameters on his screen. “That’s a potential down side of 20 cents a unit from China. What are the options?” The response was instant: “I have already notified the Indian partner to up your needs for the Peru market and instructed China to reduce. Both within your agreement so you can still hit your landed price.” The solution was acceptable to John.Smith06 and he appreciated once again the benefits of integrated partnering.

By lunch all the routine business was cleared away and so he prepped for the board meeting scheduled at 1.30pm. The virtual boardroom had been booked and on entering the centre he could see that all but the CEO had arrived. The circular screen could almost convince you that every one was in the same room. Whereas the eight person board had only physically met once this year – fewer 4-star hotel rooms and first class airline tickets. The CEO, Mary.Roberts86 appeared on-line dressed in her usual t-shirt and jeans, standard attire for the ranch in Arizona.

There was not much on the agenda for today, since with the Vidcom links they could meet every week. The major topic was the potential new supplier from Slovenia. John.Smith06 gave the report from his Eastern Europe manager. The only debate came from the Environmental Impacts VP who expressed concern over recent reports of river contamination by one of the chemical networks. This issue had already been highlighted by SWOT-NET and the particular agreement had been modified to ensure that a UN anti pollution certificate was in place before production started. Based on this, the recommendation to proceed was given.

The negotiations had already taken place so John.Smith06 had the deal ready to run the moment he returned to his desk. The exchange of finger-prints and eyeball scans (signatures were obsolete with the development of reliable biometrics to defeat identify left) was passed through the network’s security communicator and, once acknowledged, he validated the machine codes with the chief designer in Mumbai. Using standard designs and local modifications still meant that each partner could have interchangeable product output while giving localised training. Second tier supply partners would not migrate to interactive systems until their actual performance had been validated. In the meantime, customised computer packages could be installed that provided what was needed. Again the release codes could be controlled. This was not the most efficient approach but it would take time on both sides to evolve the relationship. First tier status would bring a higher unit price, so both side where “incentivised” to towards integration.

Just time to punch in some ideas to the risk



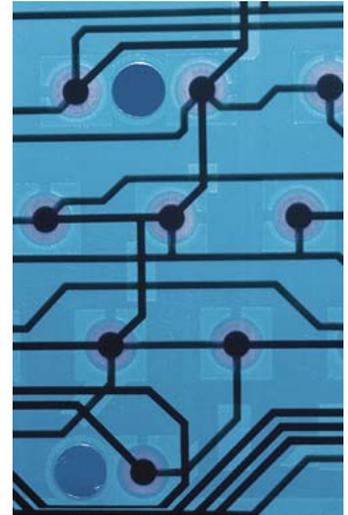
“Despite all that had improved over the years, freight was still a must....You could move production but you still needed to deliver to the customer”

A day in the life of a virtual organization 2020 (contd.)

management team (the risk management and IT departments were now even larger than the sales department). The Satellite network shut down was a foreseeable problem that needed to be addressed but an hour longer and production would have stopped. Clearly the global spread of output could handle the shortfall but the cost impact on the partner would be more difficult to adjust. As an integral part of the organisation their profitability and cost effectiveness was of concern to all. Today the focus was on the short-term, with the ever changing market place, long-term thinking was out of fashion. CEOs do not just worry about meeting or exceeding analysts' quarterly earnings projections, today the focus was on their monthly projections. It was fair to say that Wall Street, not the CEO ran this company - and every company, for that matter. The big multi-nationals had paid the price of bleeding their suppliers some years back. Many went bust and then the stock market started to push on corporate responsibility. Again, it was the analysts these days who ruled the market. When the supernet came on-line the cost floor dropped as interdependent players linked resources. provided better products and tighter supply chains but the responsibility was shared for profit and stability. It was fair to say that "M&A" has become the acronym of the century.

The last job was to Vidcom with Carol.Taylor02 and hand over the virtual keys for the night. "Hi Carol.Taylor02 how's Chicago?". "All is okay at this end ... just picked up Wall Street news that our competitors have closed a funding deal to underpin their virtual cluster. It does not take long for the competition to match our moves. Funny how relationships have now become first line collateral, I wonder what they think of your South American bank deal, assuming SWOT-NET have picked it up already." *(The competitors had heard of it too, of course. Strategising through insider information was no longer a felony in most countries: it was the norm. Everyone has insiders and, although information is still the most valuable commodity in the world, the speed and universality of transmission these days give it a very short shelf life.)*

John.Smith06 looked at his watch. It was nearly 21.30. He stretched and yawned. Time to head home. He would pick up the twins in the morning, thanks to the 24 hour day care service there was no need to wake them. One last thing, he pulled up his personal stock symbol. Damn, down 7%. Maybe he should stay. His stock just never recovered after his heart attack last year. .



Conclusions

- Starting from current conditions it is easy, perhaps facile, to forecast a shift in the world economic powerbase from the West to the East. A number of commentators and futurists have done so and we share this view. However it is much more difficult to predict how and when this transition might occur. In addition to our baseline analysis of drivers affecting business relationships in 2020, we have presented three possible scenarios that reflect, among other factors, different possibilities for global power balances.
- We have concentrated on the key roles of the EU, the US, India and China. Had space permitted, there are interesting possibilities to be considered for other emerging and high-growth markets and economies, including Brazil, Russia and smaller countries in Eastern Europe, Asia and South America. We also believe that the development of Africa will pass an important turning point during the period we are considering. Whether the outcome is positive or negative will depend on the effects of drivers operating across the world.
- Businesses over the last twenty years have focussed increasingly on immediate advantage (and we do not see this changing – the speed of business transactions will continue to increase). However, our work demonstrates that effective business strategies, even for the short-term, cannot be developed without looking to the future, beyond normal commercial timescales. How else can organisations be sensitive to small signals from emerging trends and drivers of change?
- A portfolio of relationships is essential, and will continue to be vital, for business success. This finding emerges strongly from all three scenarios. Isolationism in business is as untenable in the long-term as it is in politics. Management of business relationships will be a qualifier for business success, supported by mature national and international standards (such as BS 11000, the first business relationship management standard, which is being developed in 2006). Commercial advantage will come from the skilful development of those relationships in line with business objectives.
- Organisations expecting to survive beyond the next fiscal year must develop in their managers the skills necessary to nurture and grow relationships in all networks that affect the delivery of value to their businesses – customers, suppliers, competitors, governments, non-governmental organisations (NGOs) and others.
- Even the most optimistic views of the future do not predict the eradication of organised crime or of the discontent that fuels terrorism. Organisations need to take account of these in planning, allowing for the costs of preventing fraud and the mis-use of their products. The costs of not doing so will include government action and campaigns waged by internet-enabled pressure groups, which will be important players in the marketplace.
- We are convinced that human activities are warming the Earth by releasing increasing quantities of greenhouse gases, principally carbon dioxide from burning fossil fuels, into the atmosphere. How to slow or stop this process, and how to live with its effects, will be a major part of national and international policies, certainly among the developed economies, for the foreseeable future. Coupled with this will be the question of how to decouple the legitimate development of less developed countries from energy consumption. Businesses must develop relationships with government and NGOs to engage with the problem of climate change and to avoid being left exposed by changes in legislation and public attitudes.
- Resources, as well as energy, will become scarcer and therefore more expensive. Businesses must become more efficient in their use of resources and pay attention to the whole value chain of products and services, including raw materials, transport, production, use, re-use, re-cycling and disposal. Many materials, currently seen as waste, will become valuable resources.

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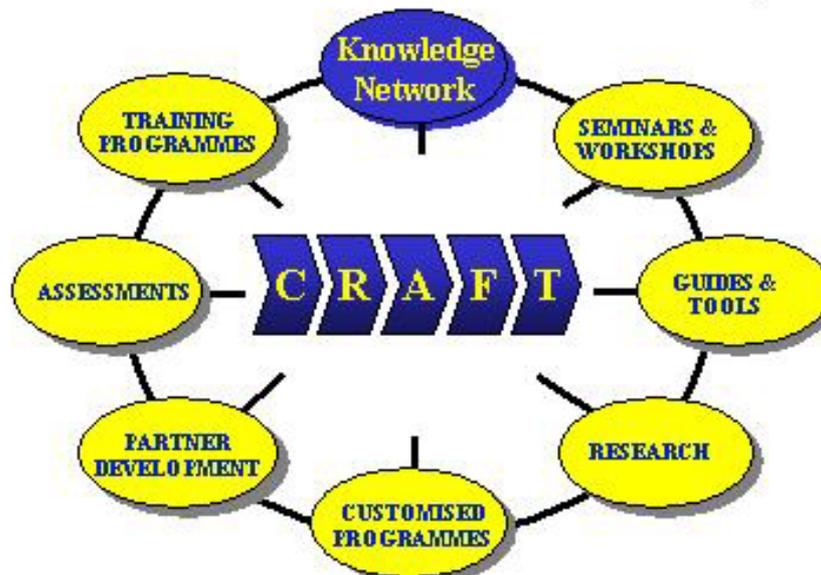
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