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Our Research

Reinventing the Airport Ecosystem'

- Drivers of change
- Science and technology advances
- Customer expectations
- Innovation priorities
- Strategies and business models
- Surveys to test ideas and scenarios on a global audience
- Models for managing the airport ecosystem



Our Research suggests airports need to see themselves an as ecosystem - An integrated portfolio of models



'Future Proofed' Organisations Work on 3 Horizons in Parallel







1-12 Months

1-3 Years

4-10+ Years

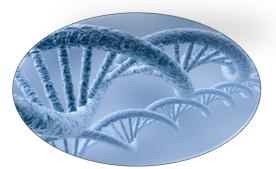
Operational Excellence

Drive for Growth

Creating the Future

The Next Ten Years



















Priorities for Future Proofed Leaders







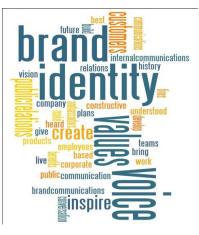


Markets

Mastery

Muscle

Magic









Message

Models

Mindset Mai

Management

Markets – Drivers of Future Business?



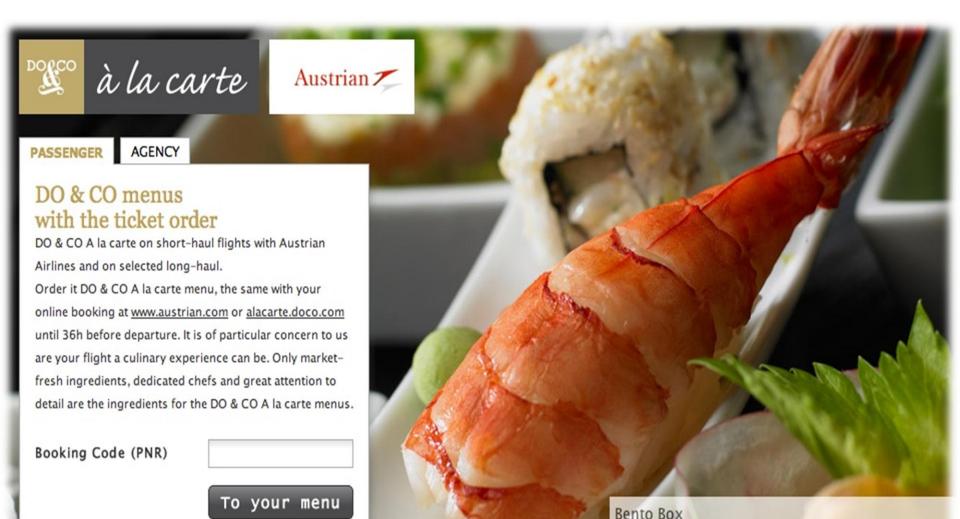
Demographic Destinies 2 billion more people in 40 years – Demographics is Driving Economics



Passenger Convenience



Buy Before you Fly



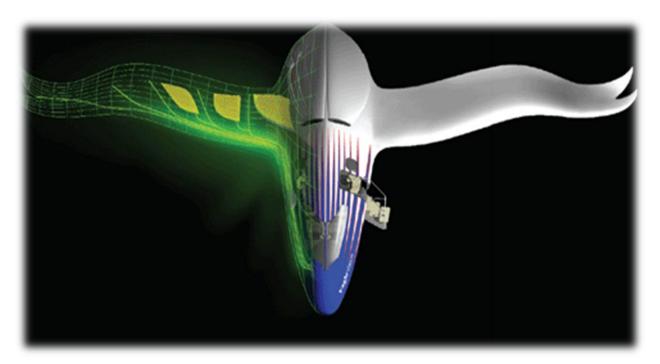
Next Generation Aircraft Boeing Advanced Vehicle Concept



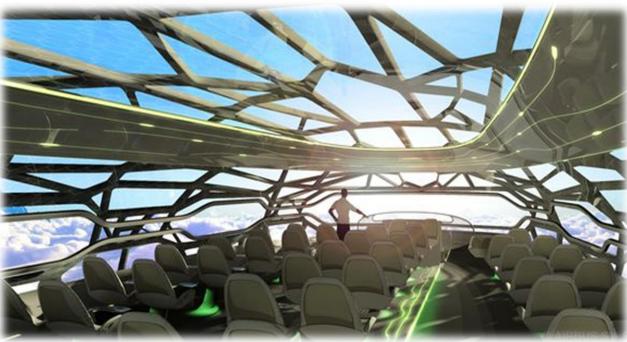
Supersonic Flight – Flying Wing



NASA -Morphing Planes

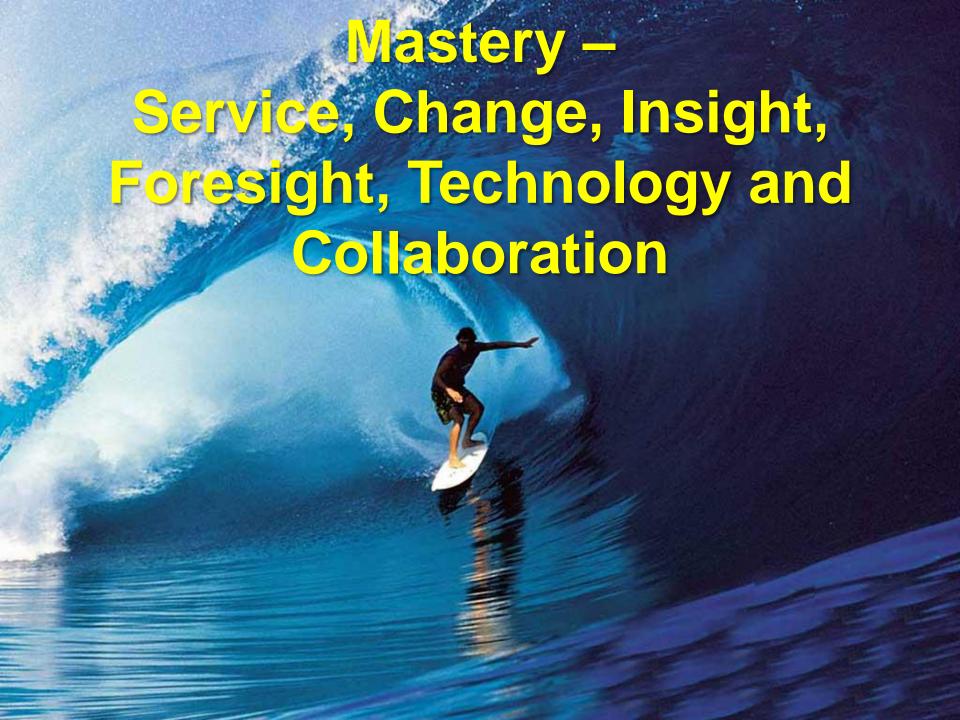


EADS Bionic
Structures



Personal Aircraft – The Puffin 150mph / 50 mile ranger





The Ultimate in Collaboration? Sharing of Aviation Profit Pools



Core Technologies

Used by Pioneers Now	Pioneered by 2015	Pioneered by 2025
Personal Technology		
Mobile phones 3G / 4G smartphones Augmented reality Gesture recognition	Intelligent software assistants Mind control headsets 3D displays (Glasses free) Intelligent interfaces Flexible screens Digital currency	5G phones Biologically embedded electronics Eyewear embedded screens Intelligent brain-computer interfaces
Streamlining the Passenger Journey		
Biometrics –voice / facial / handprint recognition Quick-response (QR) codes RFID Interactive displays Near field communications (NFC) Temporary airports	Biometric signature – heartbeat pattern Body language recognition Robotics and automated services Virtual airports	NFC integrated into all travel documents and passports Use of human genomic profiles
Enhancing the Passenger Experience		
Social media Passenger-polling systems Hybrid platforms (i.e. Google Wave) Interactive surfaces Virtual worlds Vertical farming (basic) Next generation cinematic experiences: 6D and beyond	Real-time language translation Reality mining Wearable displays Immersive web 3D printing Biomimetic Design	Haptics technology Touchable holograms Vertical farming (advanced)
Information and Communications Technology (ICT) Infrastructure		
Wireless broadband Cloud computing Telepresence Big Data	Machine learning Ambient / Embedded intelligence – the 'Internet of Things' Grid computing MANETS (Mobile Ad-hoc NETworks) Swarm intelligence Intelligent web	Semantic web Machine vision Optical computers Collective intelligence

T-Rays and The VIRTUS Chipset

1.5 - 2 gigabit / sec (~1000 x Bluetooth)



Enabling wireless display, mobile-distributed computing, live HD video streaming, and real-time interactive multi-user gaming

Muscle – Key Survival Capabilities



Rapid Decision Making







Speed of Execution e.g. Ultra-Quick Construction



Muscle – Rapid Innovation e.g. Naspers' New Media Lab ("Fail fast and cheaply" – Koos Bekker, CEO)



Research at 'cutting edge of technological media innovation' e.g. human-computer interaction, augmented reality, online gaming, internet television and semantic text processing

Magic – Creating the Wow Factor



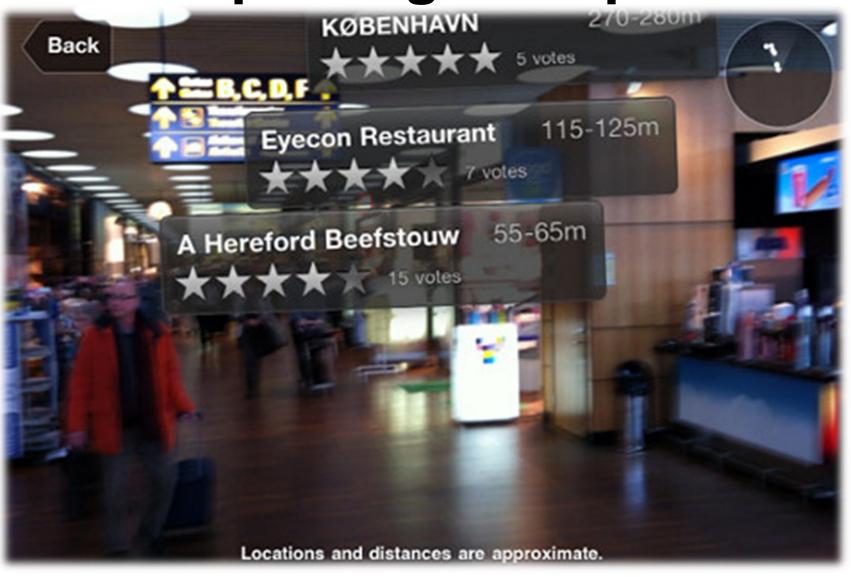
Magic – Ideas that Delight E.g. Virtual Grocery Shopping – Tesco South Korea



Tesco Gatwick Virtual Store



Augmented Reality at Copenhagen Airport



Next Gen Qantas Check-In





Customer Centred Solutions e.g. Helsinki Lounge



Message Impact, Innovation and Ethics



Models for Tomorrow's Airport System

- Governing Concept
- Infrastructure
- Revenue Generation
- Financing
- Customer Engagement
- Service Delivery





Conceptual Model - The airport of 2025 will most resemble?



A mini-city, separate from its local surroundings



An extension of the local city



A shopping mall with runways



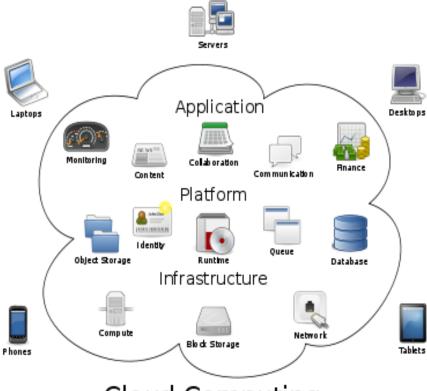
Bus Stop - A walkway to pass through security

Infrastructure Models -Sustainable, Fast Build, Flexible, Modular and Temporary Terminals



Infrastructure Financing – Access is Key 'Usership' vs. Ownership

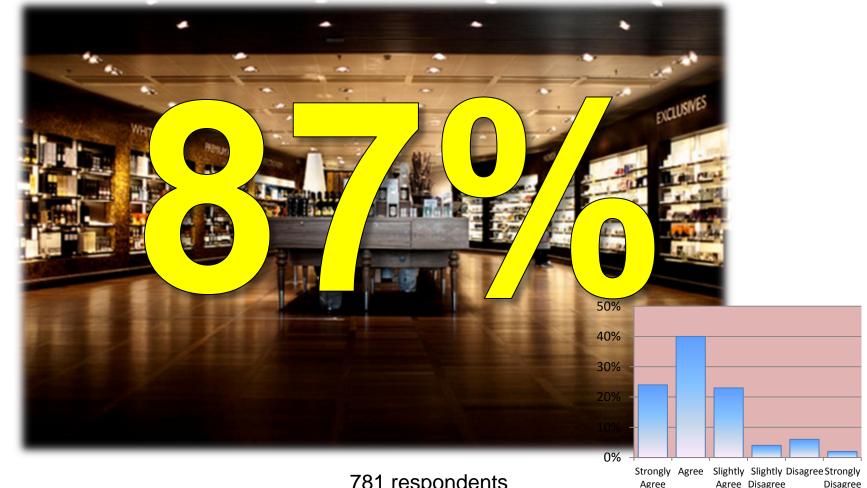




Cloud Computing

Revenue Generation Models

In an increasingly uncertain economic environment with volatile fuel prices, airports will be under constant pressure to reduce or eliminate landing charges for airlines and fund themselves through other commercial income such as retail and leisure.



Leveraging Customer Insight – What retail developments would most encourage you to do your shopping at the airport rather than elsewhere?



Discount outlet stores



Greater use of discounts, sales and best price guarantees



Themed retail (e.g. reflecting local region)

Revenue Models - the Power of Auctions



£3088

£8791.50

£81

How do you see technology being integrated into your airport shopping experience?



QR code store windows – purchase by mobile and collect on return / home delivery



Personalized advertisements and discounts



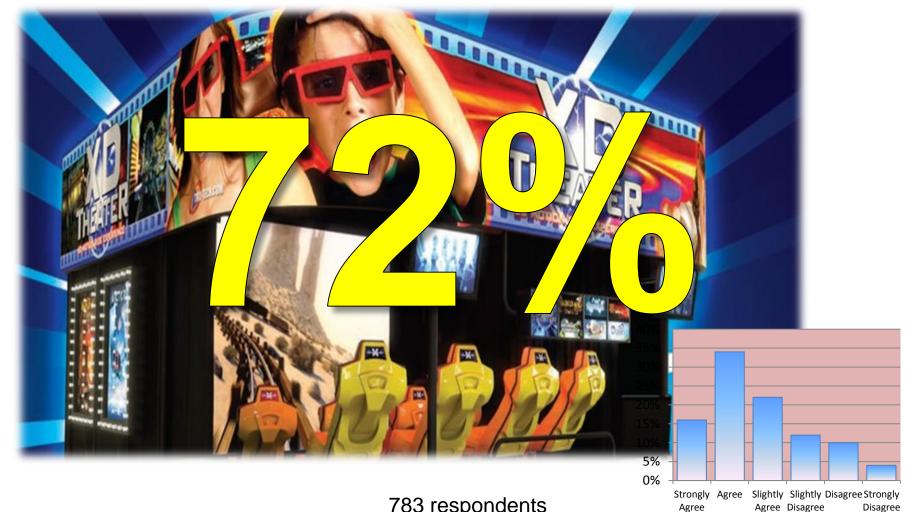


Multichannel – search online, try in store, buy via mobile

Collection on arrival of goods purchased from online-only retailers

All Inclusive

By 2025, to survive commercially, airports will increasingly try to be retail, dining and leisure destinations in their own right and seek to attract nonflying customers as well.



Financing Models

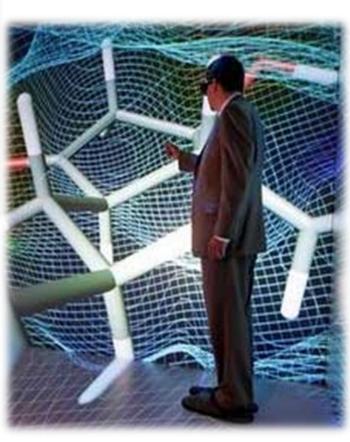
- Ecosystem
- Community
- Public-Private
 Partnership
- Securitisation
- Diaspora



Customer Engagement – Deep Personalization







Personalization



American Airlines[®]



United States Airports



\$125 Per Person



\$200 For Two People

International Airports



\$200 For Up To Two People

Additional Travelers



\$125 International or United States

Service Delivery Model – Start with Customer Journeys and Experiences

- > Stimulus / Search / Booking
- Transport to and from the Airport
- Check in to Flight Departure
- > Flight Arrival to Airport Exit
- Flight Transfer Arrival to Departure
- > Airport Experience
- > In Flight Experience
- Relationship Management



Mapping Customer Journeys & Experiences



Sub Traffic information process **KPI**

Traffic jams



Off airport flight information



Arrival at airport by car/train

Accessibility

91% / 90%



Parking

Price/Quality LT

41%



Transport from parking to Plaza

Ease of wayfinding



Entering Plaza

Clarity



Services; rental, parking



Leaving Plaza

Clarity





Departure from airport by bus/train

Accessibility

90% / 80%

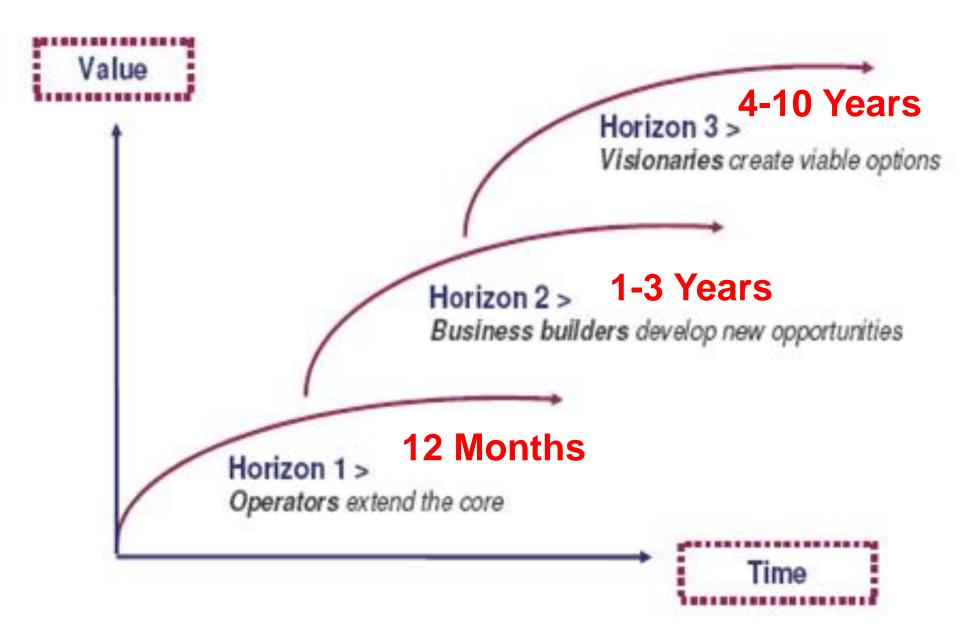


Retrieving car & Leaving airport

Sub process **KPI** Score

Score

Mindset - 3 Horizon Thinking



Mindset – Uncertainty Tolerant, Experimental, Curious, Sticky and Magnetic

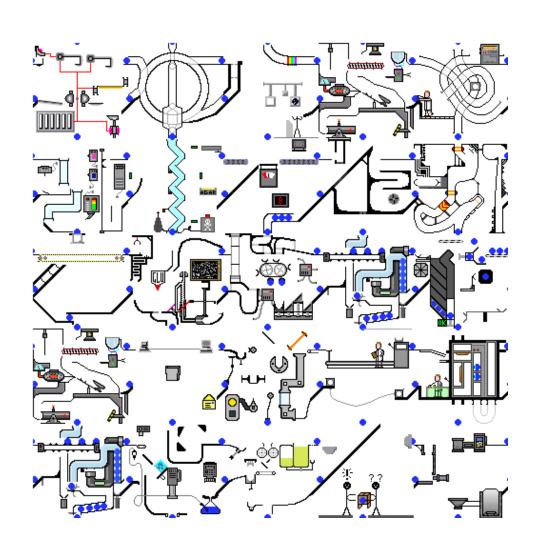


Management - Lead or Follow?



Management - Make Time and Space for Change and Tackle Complexity

- Customer Interface
- Process
- Organisation
- Information / Systems
- Regulatory
- Human



Priorities for Future Proofed Leaders







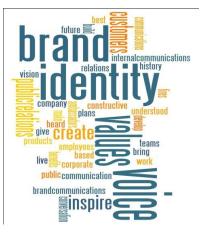


Markets

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Conclusions

Huge untapped potential

Technology is a key enabler

Encourage innovation and curiosity

Experiment with business models

Work with and for tomorrow's passenger



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About Fast Future

Fast Future – Core Services

- Live Events Speeches, briefings and workshops for executive management and boards of governments, investment funds, development agencies, companies, airlines, airports, hotels, venues, CVB's and associations
- Future Insights Customised research on emerging trends, future scenarios, technologies and new markets
- *Immersion* 'Deep dives' on future trends, market developments, emerging issues and technology advances
- Strategy Development of strategies and business plans
- *Innovation* Creation of business models and innovation plans
- Engagement Consultancy and workshop facilitation

Fast Future

- Research, consulting, speaking, leadership
- 5-20 year horizon focus on ideas, developments, people, trends and forces shaping the future
- Clients
 - ING, ABN Amro, Laing O'Rourke
 - Marks and Spencer
 - Airports Aeroports de Paris / Schiphol Group
 - Vancouver Airport Services
 - Industry Associations ICCA, ASAE, PCMA, MPI
 - Corporates GE, Nokia, Pepsi, IBM, Intel, Orange,
 O2, Siemens, Samsung, GSK, SAPE&Y, KPMG,
 Amadeus, Sabre, Travelport, Travelex, ING,
 Santander, Barclays, Citibank, DeutscheBank
 - Governments Dubai, Finland, Nigeria, Singapore, UK, US
 - Convention Bureaus Seoul, Sydney, London, San Francisco, Toronto, Abu Dhabi, Durban, Athens, Slovenia, Copenhagen
 - Convention Centres Melbourne,
 Adelaide, Qatar, QEIICC
 - Hotels Accor Group, Preferred,
 - Intercontinental
 - PCO's Congrex, Kenes

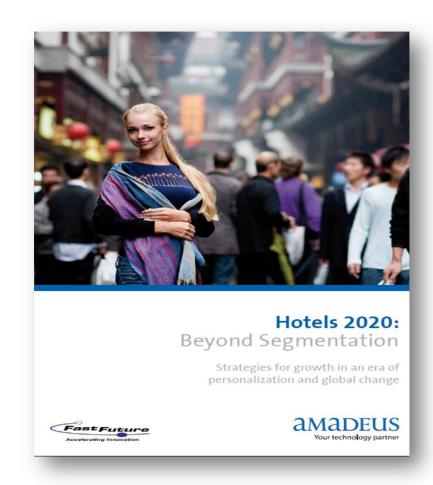


Hotels 2020 – Objectives

Identify key drivers of change for the globally branded hotel sector over the next decade

Examine the implications for:

- Hotel strategy
- > Brand portfolio
- Business models
- Customer targeting
- > Innovation



Convention 2020

- Global strategic foresight study to help the meetings industry prepare for the decade ahead - Industry-wide sponsors
- Multiple outputs Nov 2009 December 2011
- Current studies on future strategies for venues and destinations

































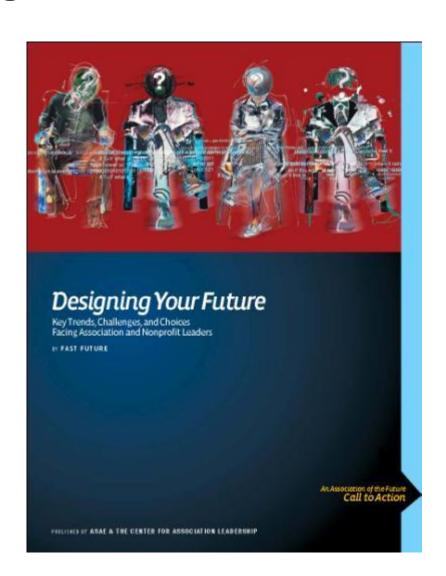
Rohit Talwar

- Global futurist and founder of Fast Future Research.
- Award winning speaker on future insights and strategic innovation – addressing leadership audiences in 40 countries on 5 continents
- Author of Designing Your Future
- Profiled by UK's Independent Newspaper as one of the Top 10 Global Future Thinkers
- Led futures research, scenario planning and strategic consultancy projects for clients in telecommunications, technology, pharmaceuticals, banking, travel and tourism, environment, food and government sectors
- Clients include 3M, BBC, BT, BAe, Bayer, Chloride, DTC De Beers, DHL, EADS, Electrolux, E&Y, GE, Hoover, Hyundai, IBM, ING, Intel, KPMG, M&S, Nakheel, Nokia, Nomura, Novartis, OECD, Orange, Panasonic, Pfizer, PwC, Samsung, Shell, Siemens, Symbian, Yell, numerous international associations and governments agencies in the US, UK, Finland, Dubai, Nigeria, Saudi Arabia and Singapore.
- To receive Fast Future's newsletters please email rohit@fastfuture.com



Designing Your FutureKey Trends, Challenges and Choices

- 50 key trends
- 100 emerging trends
- 10 major patterns of change
- Key challenges and choices for leaders
- Strategic decision making framework
- Scenarios for 2012
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Bespoke research; Identification & Analysis of Future Trends, Drivers & Shocks

Accelerated Scenario Planning, Timelining & Future Mapping

Expert Consultations & Futures Think Tanks

Identification of Opportunities for Innovation and Strategic Investment



Example Projects

- Public and private client research e.g. :
 - Reinventing the Airport Ecosystem
 - Development of Market Scenarios, emerging trends and strategies for key clients
 - Government and OECD Scenario Projects e.g. Migration 2030, Future of Narcotics, Chemical Sector, Family 2030
 - Scenarios for the global economy for 2030 and the implications for migration
 - Designing Your Future (Published August 2008) book written for the American Society of Association Executives & The
 Center for Association Leadership
 - Global Economies e.g. The Future of China the Path to 2020
 - The Shape of Jobs to Come Emerging Science and Technology Sectors and Careers
 - Winning in India and China
 - The Future of Human Resources
 - Exploiting the Future Potential of Social Media in UK Small to Medium Enterprises
 - Convention 2020 the Future of Business Events
 - Future Convention Cities Initiative Maximising Long-term Economic Impact of Events
 - One Step Beyond Future trends and challenges for the events industry
 - Hotels 2020: Beyond Segmentation Future Hotel Strategies
 - The Future of Travel and Tourism in the Middle East a Vision to 2020
 - Future of Travel and Tourism Investment in Saudi Arabia

Example Clients



























edexcel

































Associated British Foods plc















Image Sources

Page

- 1 http://innopedia.wdfiles.com/local--files/systems-of-systems-ideas/futureairportsystems.jpg
- 3 http://lifecoachonthego.com/wordpress/wp-content/uploads/2011/02/Woman-Ladder-Binoculars-300x200.jpg
- 4 http://www.amadeus.com/airlineit/resources/reinventing_the_airport_ecosystem/img/amadeus-reinventing-the-airport-ecosystem-2012-en-infographic.jpg
- 5 Left to right
 - http://www.greek-tourism.com/attiki-athens/attiki-images/athens-airport.jpg
 - http://wizardistanbul.com/wp-content/uploads/2011/05/Ataturk-airport-arrivals-istanbul-turkey.jpg
 - http://www.kgwings.com/hawkeye/hawkeye05.jpg
- 6 Centre and clockwise from top right
 - http://www.dnjournal.com/images/lowdown/time-decade-from-hell.jpg
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 - http://batonrouge.myhomecareblog.com/files/2011/07/active_seniors4.jpg
 - http://www.conserve-energy-future.com/Images/SolarEnergy_Advantage.jpg
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 - http://www.subhub.com/custom/5ways/m3f85a9df.png
 - http://www.successfulaffiliate.com/images/positive-mindset.jpg
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- 11 http://boardingarea.com/blogs/lufthansaflyer/2012/06/28/a-la-carte-dining-with-austrian-airlines-and-do-co-order-your-meal-before-your-flight/
- 12 http://www.space.com/14438-photos-future-airplanes-nasa-21st-century-aircraft.html
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- 50 http://nextnature.net/wp-content/uploads/2008/02/planes.jpg