

# Cambridge Service Alliance **Annual Report 2013**

# The Cambridge Service Alliance

The Cambridge Service Alliance is a unique global partnership between businesses and universities. It brings together the world's leading firms and academics, all of whom are devoted to delivering today the tools, education and insights needed for the complex service solutions of tomorrow.

## About the Cambridge Service Alliance

Founded in 2010 by BAE Systems, IBM and the University of Cambridge's Institute for Manufacturing and Judge Business School, the Cambridge Service Alliance brings together world-leading organisations with an interest in complex service systems to:

- Conduct insightful yet practical research to improve the design and deployment of high-performance complex service systems.
- Create and develop industrially applicable tools and techniques that deliver competitive advantage.
- Provide an unparalleled network of academics and industrialists that share experience, knowledge and insight in how better to design and deploy high-performance complex service systems.
- Develop and deliver public and member-only education programmes to raise the skill levels of organisations.



## Joining the Cambridge Service Alliance

### Industrial members

The Cambridge Service Alliance is a business-led alliance with industrial members who have an active interest in the shift to services. The industrial members are BAE Systems, Caterpillar Inc., GEA, IBM, Pearson and Zoetis.

The Cambridge Service Alliance will bring together up to four further companies prepared to make significant and long-term contributions to support the Alliance. Benefits of joining include:

- Challenging yet practical insights into the design and delivery of high-performance complex service solutions.
- Practical tools, techniques and methodologies.
- Education and training to enhance capabilities in service and support.
- A stimulating international network of the world's best talent engaged in solving problems associated with complex service solutions.

### Academic members

The Alliance draws on members from across the University of Cambridge, initially from the Institute for Manufacturing and the Judge Business School.

Internationally leading researchers and educators will be invited to join the Cambridge Service Alliance to meet specific research requirements and the needs of industrial members.

### Further information

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# Foreword

The Cambridge Service Alliance brings together businesses and the University to improve the way high-performance complex services are designed, deployed and delivered. Working directly with our partners – BAE Systems, Caterpillar, GEA, IBM, Pearson and Zoetis – the Alliance seeks to develop and deliver the tools, education and insights needed for the complex service providers of tomorrow.

## Why complex services?

There are several important shifts in the economy that make complex services important. First, firms increasingly are making the shift from products to solutions. They recognise that their clients value the solutions they offer, often above their products. Second, the complexity of these solutions means that rarely can a single firm deliver them. Hence the need for networks of firms to combine their efforts. Third, many of these solutions are associated with long-term, outcome-based contracts. Hence our partners find themselves in long-term relationships with their clients. These three features are the defining elements of complex services: (i) a focus on solutions; (ii) networks of firms pooling their capabilities; and (iii) long-term relationships involving outcome-based contracts. And we see these complex services across all sectors of the economy. From education and health care, through to capital intense and asset heavy industries, customers and clients are looking for ways of increasing the efficiency of their operations; reducing their cost-based and risk exposure; and partnering with strategic providers that can deliver integrated solutions.

## Making this shift to services is not straightforward.

Many firms need to innovate their business models. They need to rethink the way they interact with their partners and their broader industrial ecosystems. Often they end up collaborating with their traditional competitors. New competitors, especially data integrators and dedicated service providers, enter their markets. The shifting landscape means that firms have to constantly evaluate and review their approach to complex services.

The Alliance provides a forum for doing just this, by offering a unique environment where non-competing organisations can share their knowledge and experience. The partners in the Alliance jointly agree a defined research programme with the University of Cambridge, addressing issues of interest and relevance to them. In 2013 we explored: (i) ecosystems and how these can be influenced and governed; (ii) asset management and Big Data – how the Internet of Things will shape the design and optimisation of services; and (iii) business model innovation – understanding the capabilities organisations require to innovate their business models.

In 2014 we will continue our world-leading academic research. Our growing membership brings greater diversity and provides new opportunities to test the ideas and thinking that the Alliance delivers. Learning across sectors and organisations provides a rich and rewarding environment, both for the researchers and our partners. I do hope you will join us on this exciting journey.



**Professor  
Andy Neely**  
Alliance Director



# Our industrial members



**BAE Systems** is a global defence, aerospace and security company employing around 93,500 people worldwide. Its wide-ranging products and services cover air, land and naval forces, as well as advanced electronics, security, information technology, and support services. BAE Systems provides a wide range of military and technical services, from preparation and training programmes that ensure personnel and equipment are ready for deployment, to maintenance and modernisation services to keep equipment at the forefront of technology.



**Caterpillar Inc.** For more than 85 years, Caterpillar Inc. has been making sustainable progress possible and driving positive change on every continent. Caterpillar is the world's leading manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. The company is also a leading services provider; Caterpillar Job Site Solutions offers complete solutions to customers that are designed to improve the jobsite performance and increase sustainability.



**GEA.** The mechanical engineering group GEA is one of the largest suppliers for the food processing industry and a wide range of other process industries. As an international technology group, the company focuses on process technology and components for sophisticated production processes. In 2013, GEA generated order intake in excess of EUR 6 billion, 70 per cent of which came from the food and energy sectors, which are long-term growth industries. The group employed about 25,000 people worldwide as of 31 December 2013.



**IBM.** Throughout its 100-year history IBM has continually strived to innovate and progress. In the mid-1990s the company faced some real challenges as the Information Technology industry started to rapidly become commoditised. IBM survived and prospered by changing its strategy, and over the past decade has shifted into high-value services and software, which now account for more than two-thirds of its revenue. Radical innovation in IBM's business model has been another example and is central to its re-invention as a globally integrated enterprise. Globally integrated delivery is now IBM's business norm, enabling it to provide services which draw on large, new pools of highly skilled specialists from across the planet.



**Pearson,** Pearson is the world's leading learning company, providing educational materials and services and business information through the Financial Times Group. Pearson serves learners of all ages around the globe, employing 41,000 people in more than 70 countries.



**Zoetis** is the leading animal health company, dedicated to supporting its customers and their businesses. Building on a 60-year history as the animal health business of Pfizer, Zoetis discovers, develops, manufactures and markets veterinary vaccines and medicines complemented by diagnostic products and genetic tests and supported by technical services, with a focus on both farm and companion animals. In 2012, the company generated annual revenues of \$4.3 billion. With approximately 9,300 employees worldwide at the beginning of 2013, Zoetis has a local presence in approximately 70 countries, including 29 manufacturing facilities in 11 countries. Its products serve veterinarians, livestock producers and people who raise and care for farm and companion animals in 120 countries.

# New partners: GEA and Zoetis

**‘GEA Group** is one of the largest suppliers for the food processing industry and a wide range of other process industries’, says Dirk Hejnal, Segment President at GEA Food Solutions. *‘As an international technology group, we focus on process technology and components for sophisticated production processes’.* The Group’s operating segments include Food Solutions, Farm Technologies, Mechanical Equipment, Process Engineering and Refrigeration Technologies. *‘We generated revenues in excess of EUR 4.3 billion in 2013, more than 70 percent of which came from the food sector, which is a long-term growth industry’* Mr. Hejnal continues.

*‘As in any capital goods business, the Service business represents a substantial portion of the total volume and that is why we put a proportional focus on developing this position even further. In order to facilitate this ambition, we established the Cooperation Service, a platform where the Service activities from the entire company come together.’*

The GEA Cooperation Service has defined its mission as follows: GEA Service is dedicated to excel in offering first choice services to enable customers to focus on their core competence. *‘We have set ourselves many targets, which all are geared towards offering value added service products to our customers’.*

*‘It is with this mission and targets in mind that GEA is looking forward to actively contribute to the Cambridge Service Alliance. We consider this an excellent opportunity for benchmarking our efforts on Services with other industry leaders, being challenged on them and to combine practical expertise with structured research. And of course, we want to be inspired when it comes to developing new service concepts. We are excited to be part of this network!’*

**Zoetis**, is a global animal health company dedicated to supporting its customers and their businesses in ever-better ways. Building on 60 years of experience in the animal health sector, the company aims to have its products, services and people as the most valued by animal health customers around the region, and the world.

*‘We are united around this shared vision, and we strive every day to help customers meet their real-world challenges through quality medicines and vaccines, complemented by diagnostic products, genetic tests and a range of services,’* said Alejandro Bernal, Zoetis Executive Vice President and Area President for the EuAfME region. *‘As the largest standalone company in the industry, we are dedicated solely to animal health and focusing on our core business so our customers can grow theirs.’*

We deliver quality medicines and vaccines, complemented by diagnostics products and genetics tests and supported by a range of services. We are working every day to better understand and address the real-world challenges faced by those who raise and care for animals in ways that they find truly relevant. Our industry serves two important segments: livestock health and companion animal health.

*‘We’re dedicated to building strong relationships’*

As Zoetis, we strive to build partnerships and alliances that ultimately can benefit our customers and their businesses. Partnering with Cambridge Service Alliance is one of the most valued opportunities for Zoetis to meet and exchange with other industry leaders, leverage a variety of experiences in different fields and share and exchange to develop new ideas. Our participation in the Cambridge Service Alliance continues to demonstrate Zoetis long term focus on investing in innovation and our commitment to bring value to our customers around the world. We are all very proud to be part of this network!



Dirk Hejnal  
GEA



Alejandro Bernal  
Zoetis

# Overview



*'For any enterprise which seeks differentiation in its domain through class-leading service provision, being at the cutting edge of contemporary thinking is vital. BAE Systems openly seeks the innovation which can only be found in a properly managed, multi-community research programme, focused on exploring the boundaries of performance. The Cambridge Service Alliance provides that environment and BAE Systems is already benefiting from testing new ideas and creating best practice.'*

**Les Gregory,  
BAE Systems**

The nature of business is changing. Close to 60 per cent of US manufacturing firms now offer services and solutions to supplement their products. In the public sector, governments are commissioning based on outcomes and delivery, rather than inputs and more traditional targets. In some cases customers are no longer willing to pay for goods received, or for hours of service delivered. Instead they demand solutions, results and outcomes that are of direct value to them.

Delivering these outcomes often involves significant business model innovation. Payment and contract terms can change. New partnerships can be required. Longer term relationships with customer are necessitated. Often risk is transferred from the customer to the provider when a shift to services takes place. Understanding the nature of this business model innovation and identifying how it can successfully be executed is a core theme for the Cambridge Service Alliance. Our work on business models for services started by looking at the capabilities required to successfully innovate service business models. Through this work we identified twelve categories of capability, covering: (i) the value proposition; (ii) the value delivery system; (iii) the risk or accountability spread and (iv) the surrounding ecosystem. Developing capabilities across these twelve categories proves key to successfully innovating your service business model. Since our early work on this topic we have converted these capabilities into a structured assessment methodology for developing the capabilities required to innovate your business model.

Beyond the business model, it is important to understand that the shift to services takes place within the context of a broader ecosystem. Increasingly competition is played out at the level of the ecosystem, as well as the individual firm. A second core theme for the Cambridge Service Alliance has been to explore how ecosystems can be mapped and analysed. We are particularly interested in questions such as: (i) what roles do different actors play in ecosystems and why?; (ii) how is value shared amongst actors in the ecosystem? Those who create value and those who capture value are not always the same.

A third theme of our work is performance, analytics and data. Today we see an increasing number of services and solutions enabled by technology and new forms of data. Remote monitoring, prognostic and diagnostic technologies, as well as new information systems and sources of data create opportunities both to innovate services and enhance the efficiency of their delivery. Working with our partners, we have been studying how firms use data to optimise and enhance the services they deliver, as well as exploring how the design of services can inform the requirements for data collection. This stream of work will be captured in a data diagnostic that we are in the process of developing and testing.

In essence the Cambridge Service Alliance exists to help companies address the challenges posed by designing and delivering high-performance complex services. Working with our partners we define and execute agreed programmes of research designed to push the boundaries of knowledge, as well as deliver practical benefits to Alliance members. In short the Cambridge Service Alliance seeks to develop and deliver tools, education and the insights needed for the complex services of tomorrow.

## Membership, engagement and impact

The Alliance brings together the University of Cambridge and six world-leading companies who have successfully begun the shift to services. In 2013 we welcomed two new partners to the Alliance – GEA and Zoetis. GEA is the world's largest producer of food processing equipment, while Zoetis is the world's largest animal health business. GEA and Zoetis join our earlier Alliance partners, BAE Systems,



Caterpillar, IBM and Pearson, all of whom are innovating their service and solutions businesses.

The Alliance is unique in terms of the strength of the relationships between academic researchers and industry practitioners. This active involvement is essential, both to ensure that our research is relevant to business and to transfer the knowledge, tools and techniques that we develop together. By working with leading organisations, in non-competing business sectors, the Alliance helps members benefit from a wide range of experience, in addition to world-leading academic research. In 2013 the Alliance worked closely with all its partners to address current and future business challenges, for example:

- **Post-Acquisition Integration:** working with the Alliance, Pearson used the business model capability assessment as part of its post-acquisition integration planning.
- **Ecosystem Mapping:** the Alliance helped Caterpillar and Finning, its UK dealer, to map the ecosystem for Finning, identifying new opportunities for collaboration and business growth.
- **Strategy Formulation and Transformation:** materials produced by the Alliance were used in strategy workshops and processes within BAE Systems, Caterpillar, IBM and Pearson.
- **Executive Education:** members of the Alliance provided training and executive programmes across the partnership and within individual partners.

Beyond the partners, research produced by the Cambridge Service Alliance was presented at conferences and workshops in China, Finland, France, Germany, Korea, Spain, the UK and the US; featured in over 20 different press articles; and was cited in government reports – most notably the *Future of Manufacturing* report, by Foresight and the *Making Good: A Study of Culture and Competitiveness in UK Manufacturing*, by the All Party Parliamentary Manufacturing Group.

### Service Week

A key event in the Alliance's calendar is Cambridge Service Week. This year – the fourth Cambridge Service Week – looked at the challenges of making the shift to services. We heard how players in two different ecosystems collaborate to create and share value. First Caterpillar and Finning explained the business model used by Caterpillar and its global network of dealers. Then North Arizona University and Pearson talked about their collaboration to revolutionise the way education is delivered, especially for those seeking to combine work and a degree programme.

### Looking ahead

In 2014 the Alliance will continue to seek to strike a balance between insightful and forward-looking research, as well as helping our partners exploit some of the practical outcomes from our previous work. Our specific aims for 2014 include:

1. Support our partners as they capitalise on the research completed to date.
2. Continue our world-class research on ecosystems; performance and information; and making the shift to services.
3. Host the fifth annual Cambridge Service Week, looking at 'The Future of Services'.

The Cambridge Service Alliance looks forward to another successful year, bringing together more of the world's leading organisations to multiply the benefits of collaboration to address complex service challenges.



*'Through joining the Cambridge Service Alliance, we have been able to quickly raise awareness and focus in our organization of the shift to solutions that our organization is making, and we have been able to take advantage of some fantastic professional development opportunities for a large number of our people offered by the faculty at the University of Cambridge.'*  
**Annabel Cellini,  
Pearson**

# Business models for service

**Michael Barrett**  
Research sponsor



*‘Organisations often need to partner to meet their customers’ needs. They must collaborate with other suppliers and sometimes with competitors to provide integrated, results-based services. They need to take an ecosystem view; understanding the needs and capabilities of their customers and other stakeholders. Services and solutions require new business models that meet the needs of all involved, and the ability to manage the inherent risks.’*

**Michael Barrett** Research sponsor

## Work this year

Studying cities helped us to understand why ecosystems exist, and how they emerge and change. We argue that organisations can adopt different roles – the ‘ecosystem job descriptions’, such as the role of the hub, integrator or infrastructure provider. Each of these roles has different implications for the company that carries it. Furthermore, firms can innovate and even disrupt their ecosystems by changing their roles.

Alongside the primary research, we are translating our research findings into tools that our partners can use to innovate their own business models. We have finalised an ecosystems mapping tool, that can use the ecosystem logic to identify and select new opportunities for new client services. The format of the tool enables internal and/or client-facing teams at our partner organisations to independently carry out ecosystem mapping in a two-day workshop.

## Impact this year

During the year we also finalised the research on business model innovation in city ecosystems – writing this up in a briefing paper entitled ‘*Collaborate to Innovate*’. This is now available on the Cambridge Service Alliance website.

**Ivanka Visnjic**  
Research lead



**Taija Turunen**  
Researcher



## Urban ecosystems



Our research revealed that there is a specific logic to the inception, functioning and structure of the ecosystems of which players in an organisation need to be aware. First, ecosystems coalesce around a complex challenge or a goal and encompass all the players that share or relate to that goal/challenge in one way or another. Second, players can contribute to the attainment of complex objectives or sub-objectives by adopting one or more of ten universal roles – ecosystem job descriptions. When an organisation understands the roles in the ecosystem, and its own role therein, it can do its job more effectively. Deciding to play a more prominent role in resolving an ecosystem challenge can be an attractive growth strategy, for instance. Indeed, deciding to lead an ecosystem in finding an innovative solution to a complex problem can help overtake competitors and even disrupt markets. Whether an organisation decides to improve its role in the existing ecosystem, change or add to that role, or catalyse a new ecosystem, our research suggests that the starting point is the same: understanding how both the current and potential future ecosystems work in the context of that organisation. The White Paper provides the framework to analyse your ecosystem and adopt the business model that seizes the ecosystem opportunity.

Further reading ‘*Collaborate to Innovate*’, Ivanka Visnjic Kastalli and Andy Neely



# Service and support engineering

*'Organisations need to maximise the value generated by their physical assets to maintain sustainable growth. Effective service and support of complex engineering asset systems require striking the fine balance between cost, risk, and performance – the three elements that constitute system value. Asset managers need to embrace new tools and emerging information technologies to predict through-life system risk and make decisions that deliver optimal performance at minimal cost. The Internet of Things, Big Data, and Predictive Analytics will be key to the next paradigm shift in asset management.'*

Ajith Parlikad, Research sponsor

Many complex services are based on physical assets either directly or indirectly, and are only made possible through service and support capabilities. Services such as e-commerce or digital media delivery depend on effective management of large and often diverse networks of IT equipment. In many industries, customers now expect equipment suppliers to provide through-life maintenance and support in ways that secure better value for money. These demands require accurate decision-making – be it for spend on new equipment or scheduling maintenance. Only by accessing relevant, accurate and timely data can the right decisions be made. While international standards exist describing how asset management systems should function, there is currently no clear guidance on how to develop them. Alliance research aims to fill this knowledge gap.

## Work and impact this year

Research in 2013 looked at how organisations design and improve the systems they use to get value for money from fleets of capital equipment- either for their own use or as part of an integrated service to their customers. The research revealed some of the complex networks of organisations needed to deliver asset based services: no single organisation can now provide all the resources and knowledge needed to deliver the service customers demand.

Conventional approaches to designing Asset management Systems take a top-down approach, essential to link a consistent business strategy to daily activities. However these approaches neglect the role of multiple organisation and how each organisation's contribution links to the value realised by the end user. While the entire asset management system is needed to deliver customer value, each manager must be aware of how their output contributes to it.

## Key areas in Asset Management System Design

1. Flexibility of capacity. Many Asset Management Systems are optimised to deliver services efficiently at the specified rate. However changing the demands on the system- for example additional train services during the London Olympics- require different configurations. Asset Management Systems must be designed with the need to change service levels from the outset.
2. Information of asset use and cost. Many organisations have good control of their costs and where their money is spent. However standard purchasing systems cannot link the costs to the specific assets, for example how much is spent on each vehicle rather than the fleet as a whole. This need not require a dedicated IT platform, but may require consistent invoice formats for example.
3. Availability of capital. Much of the asset management literature concentrates on reducing the total cost of ownership. However the cost and availability of capital varies as a company's performance changes. Through life cost methodologies must reflect the need to keep older and less productive equipment in service for longer in harsh economic times, even if this increases overall cost.



Ajith Parlikad  
Research sponsor



Chris Pearson  
Research lead



Florian Urmetzer  
Researcher

## Accountability for Services Through Life

BAE Systems and the Cambridge Service Alliance held a workshop looking at the different approaches to managing accountability that companies must take as they shift to services. Twenty participants from eight different organisations took part in the workshop, where they compared the different approaches used by their firms. Initial analysis of the workshop suggests that technology has a greater role in ensuring that service targets are met, than for product or service safety. BAE Systems and the Alliance have been awarded an EPSRC CASE award to continue research in this increasingly important area.

# Performance, information and analytics

**Andy Neely**  
Research sponsor



*'The age of the sensor is upon us. Vast quantities of data are being created and captured as products and services are used. Smart organisations recognise the value of these data and are using them to optimise the design and delivery of their services. A key topic for the Cambridge Service Alliance to explore.'*

**Andy Neely** Research sponsor

The term 'Big Data' has gained massive popularity in recent years. In particular, the exponential growth of available and potentially valuable data, compounded by the Internet, social media, cloud computing and mobile devices, has generated new challenges and opportunities for many organisations. Important and interesting new business opportunities enabled by data are becoming commonplace. Considerable research effort has been expended on understanding how firms create and capture value from analytics in single organisations. During 2013 the research conducted within the Performance and Information Analytics research theme has contributed to our understanding of how firms can make better use of data, by proposing a data-driven framework for optimising and improving complex services. In particular, the purpose of the framework is to help organisations understand the key factors: enablers, barriers, competences, value and benefits, and key dimensions of data necessary to best optimise the delivery of their complex services.

The research evolved in several phases, starting from a literature review, data collection and description to coding, analysis and validation. This initial framework has been evaluated and refined through six case studies in different sectors: education, asset heavy, and defence. Pairs of cases were selected per sector that include early, inexperienced users of service data to run their businesses and relatively experienced users of service data in similar sectors. As a result, a diagnostics framework/guidance will be an outcome to support how we can exploit the role of data to optimise and improve services within complex service network organisations.

## Plans for 2014

In order to build on the 2013 research, the alliance will investigate 'How can feedback and analytics be used to better design, deploy and enhance services and solutions?' A diagnostic framework will be developed and demonstrated through four action research cases. Applications will be designed both to solve a practical business issue and to validate the diagnostic framework.



## Big Data

The Alliance presented interim outputs from the EPSRC NEMODE funded theme on data-driven business models at a workshop at LSE, London. The presentation focused on *Capturing Value from Big Data through Data-Driven Business Models: Patterns from the Start-up World*. In addition, the Alliance and the Distributed Information and Automation Laboratory (DIAL) hosted a one-day event on Big Data, at the University of Cambridge. During the year Andy Neely has given several keynote addresses on the topic of Big Data. One on 'Big Data Analytics: Beyond Customer Insights to Business Model Innovation' at Stibo Systems in London, and one on 'Big Data and Business Model Innovation: The New Wave of Analytics' at the Stuttgarter Controller-Forum in Stuttgart, Germany.

## Education Sector

The education sector illustrates how Big Data is changing the nature of markets and industries. Many US education providers – at both K12 and higher education levels – are suffering from increased competition, pressure on budgets and demand for higher achievement: better learning outcomes, greater skill development and higher chances of employment. Universities and colleges are therefore looking for new ways of delivering education: approaches that improve outcomes, while increasing efficiency. Online learning, coupled with regular monitoring of students and their progress opens up some interesting new opportunities. Remote monitoring of students allows schools and universities to decide where to allocate resources – which students need help and which are progressing through the course. Better allocation and targeting of scarce and expensive teaching resources delivers better learning outcomes and greater efficiency. Through work with schools and universities in their use the Service Alliance has been exploring how Big Data will enable an innovation in education.



# Cambridge Service Week

CAMBRIDGE  
SERVICE  
WEEK

This October the Cambridge Service Alliance held its annual Cambridge Service Week, which is a series of events hosted by the Cambridge Service Alliance to bring together leading academics, industrialists and policy-makers to address the challenges facing service education, research, practice and policy.

## Industrial Conference: Successfully making the shift to services?

The Industrial Conference is a major focus for service week, which this year brought together speakers representing the market leaders in their field, Caterpillar, Finning, IBM, Pearson, and even the Northern Arizona University - which is teaching completely online. We wanted to look at what we term 'the big shifts' that are going on around the world as organisations look at selling solutions and services rather than products. As firms have sharpened up their business operations to become more competitive they are increasingly looking at selling the outcome that their clients want rather than merely the ownership of the product. We heard how players in two different ecosystems collaborate to create and share value as they move towards delivering services, as well as the practical steps companies have taken to succeed. Cameron Ferguson, Caterpillar Inc.'s manager responsible for enhancing global dealer capability, described how Caterpillar has changed its business model in response to its customers' needs. This was followed by Lucy Couturier, who leads the Condition Monitory Team at Caterpillar's UK dealer, Finning, who explained how technology has enabled them to change from product supplier, supplying machines and parts, towards a solutions provider able to guarantee machine availability or maximum operating costs.



We then heard from two representatives in the Education Sector, commencing with Mark Anderson, President for Strategy and Business Development and Schools and Higher Education, Pearson International. Mark spoke of the enormous changes and challenges in the higher education sector such that the shift from products such as books to learning experience outcomes is now at the heart of what Pearson does. We then heard from Professor Alison Brown, Associate Vice President for Academic Affairs, Northern Arizona University, who gave the perspective of an education provider in this education ecosystem, explaining how they now do all their teaching electronically, having created a whole new university system, which combines flexibility and quality, meeting the individual needs of working students.



Michael Davison, Business Development Executive at IBM, and Ivanka Visnjic of the Cambridge Service Alliance, concluded the day by describing their current research into how the ecosystem perspective can give an organisation the competitive advantage it needs to succeed, and launched their report 'Collaborate to Innovate - How Business Ecosystems Unleash Business Value'. It urges businesses to understand the complex, interconnected 'ecosystems' they operate in if they want to survive and compete. Providing customers with outcomes and solutions to problems reframes how businesses must go to market, and how they put together their product and service value propositions. Mapping the ecosystem enables you to look at your operating model and how you deliver it - opening up new opportunities, developing capabilities and increasing agility.



## Cambridge Service Week 2014

### The Future of Services in a Digital Age

The next Cambridge Service Week will take place in 29 September to 3 October 2014, and will look at the future of services in a data-rich world. Members and invited guests will join academics and policy-makers for a series of research, education and practice-based events designed to support service innovation and delivery.





# Other Alliance research

**Ornella Benedettini**  
Researcher



## Company characteristics and servitization performance

Understanding the moderating role of company characteristics on overall business financial performance remains an important goal in servitization research. Company characteristics determine the fit between the company, its strategy and the business environment – and hence they may well determine the company's ability to deal with the additional complexity and demands placed by the service strategy. Building on several current theoretical perspectives on the determinants of organisational performance, we are conducting extensive empirical research to derive the externally visible characteristics that are mostly significant for companies that have adopted a strategy of enhanced service provision. This work continues research undertaken by Ornella Benedettini and Andy Neely since 2009 and that is contrasting successful and unsuccessful companies to tackle service-related decisions.

**Claire Weiller**  
PhD candidate



## Service experience design

Service experience is vital in designing and managing complex service systems. This project, by Jianyu Ji, will focus on real-time managing the customers' experience transition over the lifecycle phase of a service. The purpose of this study is to propose a conceptual model for mapping the emotion transition of customers and analysing relevant impacts on the overall service satisfaction of customers, particularly in B2B contexts. This project will draw from the service engineering, marketing, and emotion literatures to provide insights into service systems so that both practitioners and researchers are able to manage the trade-off between service productivity and customer satisfaction.

**Jingchen Hou**  
PhD candidate



**Jianyu Ji**  
PhD candidate



## New business models for transport in the digital economy

Technological advances and a strong business case are often not enough for service innovation. Changes must occur across the ecosystem – technology, economic, industry standards and regulatory – for widespread adoption. Electric mobility provides an excellent opportunity to study ecosystem innovation. Electric vehicles are being used and sold around the world in rental and car-sharing services, and as traditional ownership-based products. The successes and failures of these diverse commercialisation strategies are lessons for the future and other business sectors.

## Electric Vehicles

Work on business model design in an ecosystem context by Claire Weiller and Andy Neely won a best full paper award in the *'Inter-Organizational Collaboration: Partnerships, Alliances and Networks'* track at the British Academy of Management Conference 2013.

In addition Claire also presented her work at the 27th Electric Vehicle Symposium in Barcelona, focused on a multi-dimensional framework to compare consumer barriers vs enablers of value creation in the EV sector.

Claire Weiller's work looks at the factors needed for success and the implications of a case in Japan in the new case study report *'Electric Vehicle Rental Services: Project in Okinawa, Japan'*, January 2014. This work is supported by RADMA and IBM.

## Social capital

This research by Jingchen Hou is looking at how social capital (supplier–customer relationships) should be constructed and developed to prevent and mitigate risks of outcome-based contracts from a supplier perspective. She will explore the following research questions: 1) What are the risks and the factors that lead to the risks in an outcome-based contract? 2) What are the effects of social capital on the above risks? 3) How might social capital be constructed and developed to achieve the above effects? 4) Are there any negative effects of social capital on risks? The research will explore three dimensions of social capital: 1) structural social capital – network configuration, network stability and network interaction; 2) relational social capital – trust, reciprocity and closeness; and 3) cognitive social capital – shared value, aligned goals and shared corporate culture. Interviews focusing on IT intensive services, asset intensive services and soft services are being carried out. This research aims to build a risk health monitor for outcome-based service contracts and social capital building blocks to mitigate risks of outcome-based contracts.



## International representation

### Alliance at key workshops in China

Members of the Alliance attended key international workshops whilst on a visit to China – the ‘Europe-China High Value Engineering Network’ International Workshop, and the ‘Manufacturing Servitization Hangzhou Workshop’. The team also made a visit to Harbin Electric Machinery Co., which designs and manufactures power generation equipment.

### European Commission High Level Group on Services

Alliance Director, Andy Neely, joined the European Commission’s High Level Group on Services, which consists of senior representatives from across Europe. He has been asked by the group to identify and propose new policies to stimulate growth in the business service sector. The group is expected to report in May 2014.

### ASAP Service Management Forum

Alliance researcher Ornella Benedettini gave a keynote speech at the 10th ASAP (After Sales Advanced Planning) Service Management Forum, held in Brescia – Italy. Ornella was invited to speak about the Alliance as a leading example of collaboration between university and industry. The ASAP Forum is an initiative of five Italian universities and currently involves about fifty Italy-based manufacturing firms.

### Award at AOM, Orlando

A paper by Ivanka Visnjic was recognised as one of the best papers accepted in the Academy of Management programme for the 2013 conference, held in Orlando. The paper ‘Towards an integrated perspective on platform market competition’ was published in the Best Paper Proceedings of the 2013 Academy of Management Meeting.



*‘The Cambridge Service Alliance has delivered practical, yet thought-provoking insights and tools that are helping us change our business and the way we operate at Caterpillar and also at our dealers’*  
Cameron Ferguson,  
Caterpillar

# Other activity

## Presentations to industry and government

In addition to numerous academic conferences, Alliance researchers presented at the following conferences in 2013:

**‘The Rise of High Performance Analytics and Big Data: Fresh Opportunities for Customer Insights?’**, Nicholas Barbon Lecture Series, Chartered Insurance Institute, London, April 2013.

**‘Global Trends in Manufacturing’**, Europe-China HVEN Workshop, Hangzhou, China, April 2013.

**‘Innovating Your Business Model: Making the Shift to Services’**, The Europe-China HVEN International Workshop, Harbin, China, April 2013.

**‘How to Capitalise on the Transformative Power of Service Innovation for Structural Change’**, organised by the European Commission’s Enterprise and Industry Directorate-General held in Belfast, Ireland.

**‘Servitization of Manufacturing’**, Royal Aeronautical Society meeting, London.

**‘Service and Support’ Conference, organised by Neovia Logistics, part of the Caterpillar organisation, in January 2013.**

## Publications for practitioners and policy-makers

In addition to academic publications in conferences and journals, Alliance researchers published the following:



**‘Collaborate to Innovate - How Business Ecosystems Unleash Business Value’**. Briefing on concept of business ecosystems, using the business ecosystems of the cities of Vienna, London and Chicago as case studies.

**‘When Innovation Follows Promise - Why service innovation is different, and why that matters’**. Briefing which looks at the process of service innovation in an attempt to improve the way that service and product-service providers develop new services.

**‘The Re-igniting Growth - Research findings on achieving long-term economic recovery’**. Chapter in report by the EPSRC on servitization, which says that future UK economic growth lies in a

radical change in the way firms offer their products – ‘servitization’.



**‘Industry Transformation Towards Service Logic: A business model approach’**. Briefing which tackles the issue of industrial transition into value- and service-based business, and offers a managerial tool on how customer value is turned into profitable business.

**‘The Servitization of Germany: An International Comparison’**. Briefing which presents data on the range and extent of servitization globally, contrasting levels in Germany with France, the UK, the US, as well as the BRIC countries – Brazil, Russia, India and China.

**‘Business Model Design in an Ecosystem Context’**. Briefing which compares various approaches to services for recharging eco-friendly electric vehicles currently offered around the world.

**‘Engineering Asset Management: Issues and Challenges’**. Briefing on the key areas companies must address over the next five to ten years, to improve the value for money they get from their asset fleets.



## Audio-visual summaries

Audio podcasts and videos summarising many of the Alliance’s key reports, keynote addresses and papers are available at: <http://www.cambridgeservicealliance.org/outputs/audio-visual.html>



### Selling services – *Financial Times* interview

Andy Neely was interviewed by Della Bradshaw, Business Education Editor of the *Financial Times*, on the topic of selling services. Andy explained that, while businesses are increasingly looking to sell services rather than just products, the transition poses some challenges, such as reputational risk.



# The year ahead

The year 2013 was an important year for the Alliance. We welcomed new partners and new members to the research team and published some influential pieces of work. As we look forward to 2014 there are several areas that we would like to focus on.

1. Support our partners as they capitalise on the research completed to date.
2. Continue our world-class research on ecosystems; performance and information; and making the shift to services.
3. Host the fifth annual Cambridge Service Week, looking at *'The Future of Services'*.

## Capitalising on work completed to date

The Alliance has created a valuable body of materials – ranging from the business model innovation capability audit through to processes for identifying and selecting enterprise-wide key performance indicators and mapping and innovating ecosystems. In 2014 we want to make further use of these materials across the entire range of our partner organisations.

## World-class research

The Alliance seeks to strike a balance between exploitation of completed research and exploration of new research. In 2014 we will complete projects to:

- Develop and validate a data diagnostic that can be used to identify how performance data can help optimise service delivery.
- Understand and map the economics of ecosystems – extending our ecosystem mapping methodology to new applications, particularly focusing on the questions of who captures value in ecosystems and why.
- Manage the shift to services – completing a series of studies with our partners asking the question of what can we learn from their experiences of making the shift to services and solutions.

## Alliance Community of Interest

The year 2014 will see the launch of the Cambridge Service Alliance Community of Interest – a series of workshops for our partner organisations designed to shape the emerging research agenda and provide additional opportunities for the partners to network and learn from one another.

## Executive education

Through the Judge Business School and Institute for Manufacturing, the Alliance delivers a number of executive education programmes designed to provide professionals with the skills they need for career and personal development. Facilitated by senior Cambridge researchers, they are designed to be stimulating, academically rigorous and practical.

The Alliance can offer executive education modules in:

- Service innovation in the digital economy
- Business model innovation: changing the game
- Enterprise performance management
- Service design thinking
- Introduction to complex services



## Industrial briefings

The Alliance industrial briefing series brings the latest thinking on complex service systems to decision makers and practitioners. Each briefing addresses how recent Alliance research addresses current business needs, presenting key points and recommendations for a business in a complete and accessible form.



