

# International Flood Mapping & Modelling

## Case Study on Growth through Export

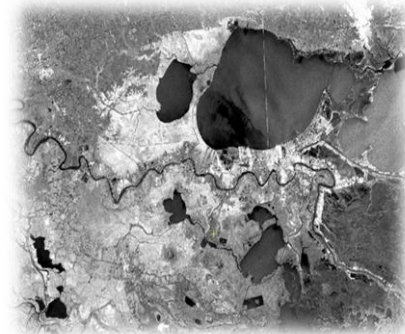
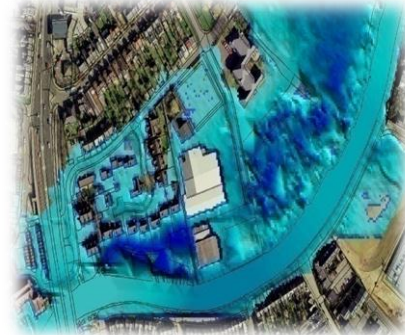


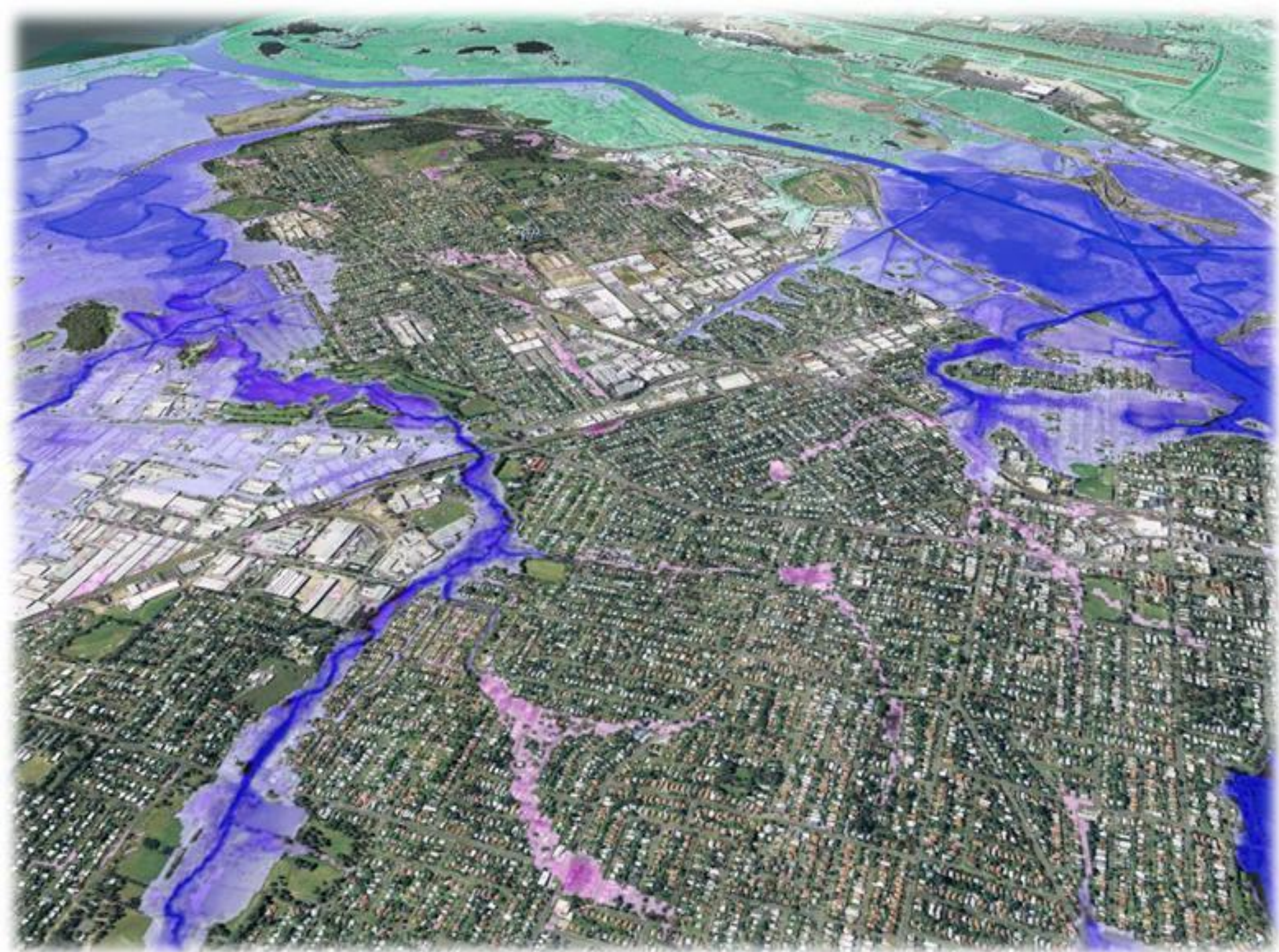




## Ambiental - Shaping and Supporting Flood Risk Decision-Making

- Digital Flood Mapping Technology
- Can be used for insurance risk rating and to reduce risk to life from floods
- Enables production of building-specific flood risk information almost anywhere in the world.



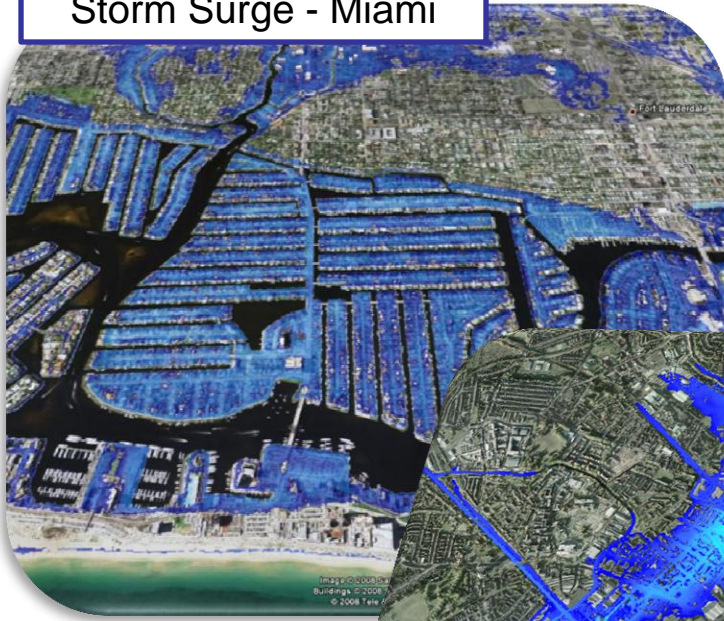




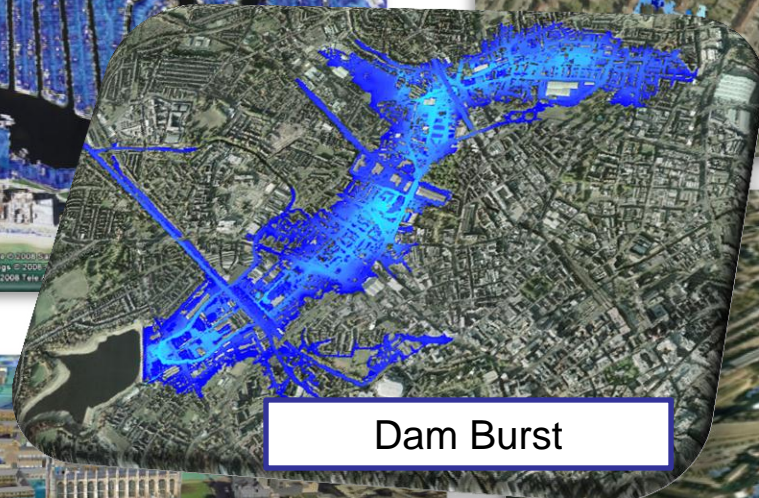
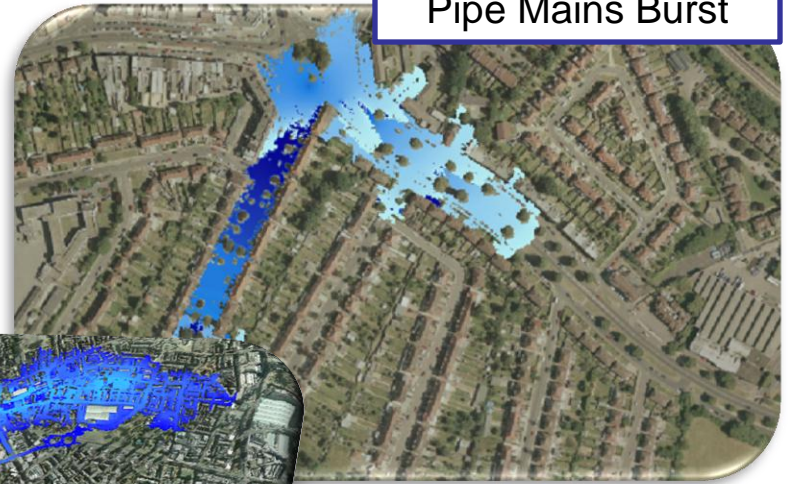
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# [ Flowroute™: 360° View of Flood Risk ]

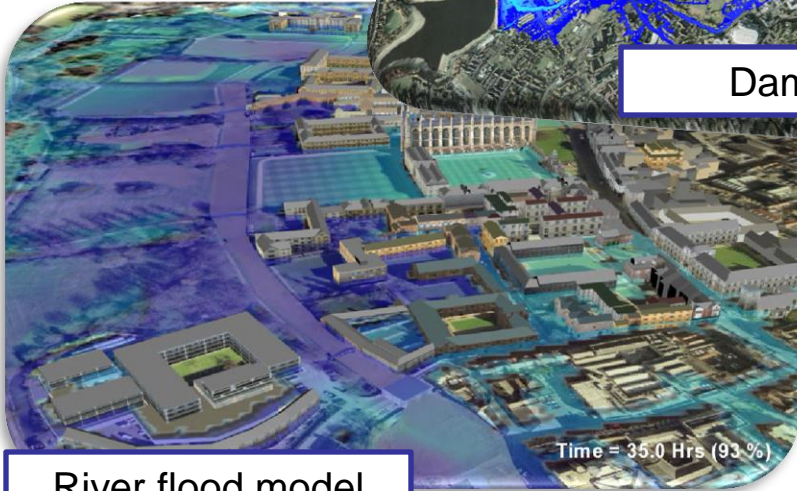
Storm Surge - Miami



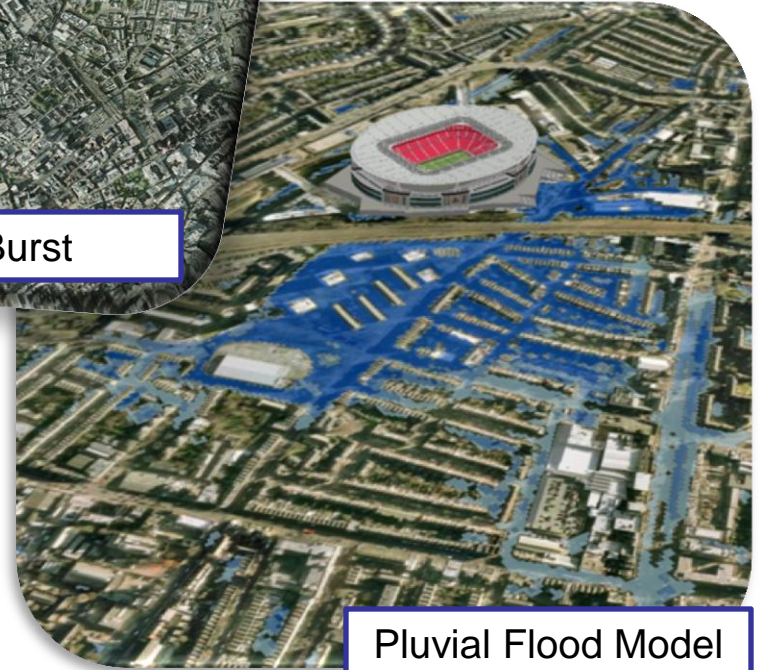
Pipe Mains Burst



Dam Burst



River flood model



Pluvial Flood Model



# Our Clients Include

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## Increasing UK Flood Risk

- **£3bn insured loss** resulting from the summer 2007 floods
- **One in six homes** in England is at risk of flooding
- **“Flood Rich”** period?
- **Decreased public spending** on flood defence over the next 5 years
- **ABI Statement of Principles** coming to an end in 2013





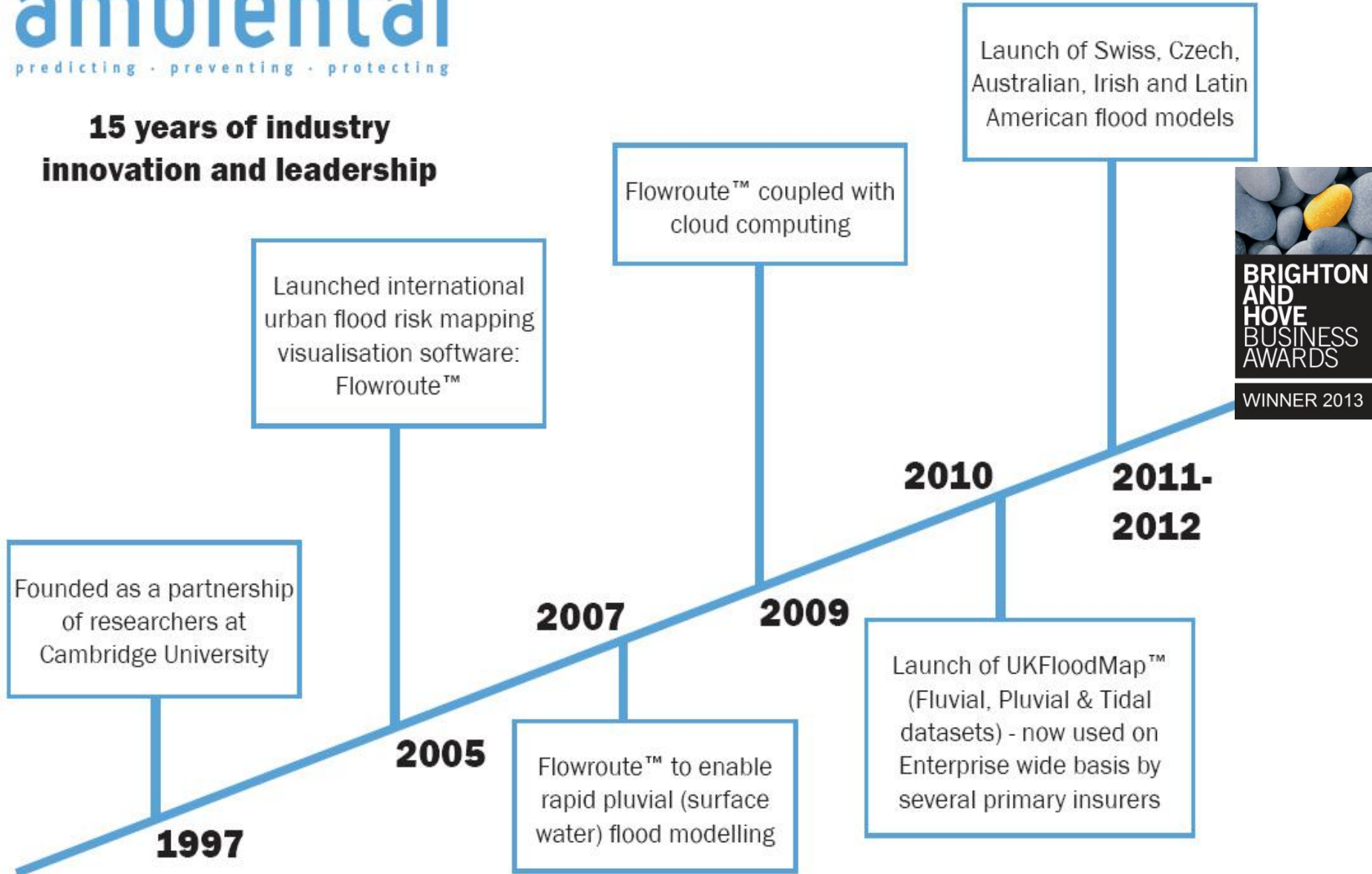
## The Global Context

- In 2010 alone, floods effected **178 million people** globally, and this is set to increase under climate change
- Projected **42%** of the earth's land surface will have an increased risk of flooding by 2100
- Areas that show the **highest increased risk** are Southeast Asia, Peninsular India, eastern Africa and the northern half of the Andes
- Estimated total global exposure to flooding in 2010 was \$46 trillion which is projected to increase to **\$158 trillion by 2050**

Source: Hirabayashi et al., 2013, NatureClimateChange.



## 15 years of industry innovation and leadership





## The 'How' – Ambiental's Export-Led Growth Strategy

- Flood risk is a **global phenomenon** – the UK market is substantial but there is a need to build a scalable business
- Many of our clients are based in London, but operate internationally – **good distribution channel** for exports
- **Product-based strategy** - software and digital mapping backed up by consultancy and customer support
- **New offices opened** in Singapore and Australia – responding to increased flood exposure in the region
- Internationalisation of Ambiental's **web presence**
- **Trade missions** assist to qualify new markets – reduces the risk of expansion overseas, and adds credibility.



WEB  
MISSION 2012

## WHAT

### **Entrepreneur mission to India**

- » Bangalore and New Delhi
- » 9<sup>th</sup> to 16<sup>th</sup> Feb

## WHY

### **Help early stage innovative UK companies do business in India faster**

## WHO

16 of the most promising digital, wireless and mobile software technology companies

- » Affordable, profitable, scalable, and innovative solutions
- » Business to business opportunities within the Indian value chain
- » Telecoms, energy, education, health, enterprise through to digital society and infrastructure

## HOW

Week-long immersion with unparalleled agenda to inspire and equip

- » Run by entrepreneurs for entrepreneurs
- » Backed by public and private sector support
- » Eighth Mission in a series including Clean and Cool and Future Health



## CONNECTIONS AND PROFILE:

- Exposure to Indian market including PR and media
- Tangible B2B opportunities
- Customer-partner-supplier (and investor) network building
- Local peer to peer relationships
- Supportive Mission community
- Impact to support a pipeline



## MARKET-LED KNOW-HOW:

- How best to engage and succeed
- Accessing technology value chains
- How India absorbs and applies new technologies
- India's business strengths, principles and models
- Trends and influences in next 6, 18 and 60 months

## INSIGHT AND INSPIRATION:

- Opportunities for profitable and scalable UK solutions
- Indian innovation in action
- Stimulus to spark affinity for India
- Headspace and challenge to innovate
- Mission experience



Team briefings



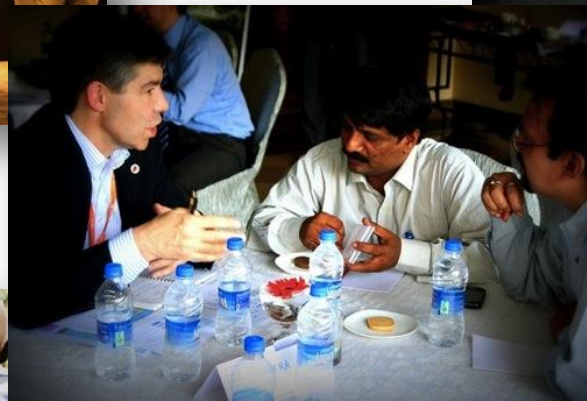
Corporate insights



Pitching



Networking



1:1 meetings



Filming



Innovation workshop



## Outcomes from our Trade Mission to India

- ✓ Extensive press coverage and PR
- ✓ High level introductions, networking and an invaluable cultural insight
- ✓ Shift in emphasis from insurance to state government as key target sectors
- ✓ Negotiating a technology and distribution partnership to build a flood map of India
- ✓ **Conclusion:** *Mission was of key importance for refining our export growth strategy*



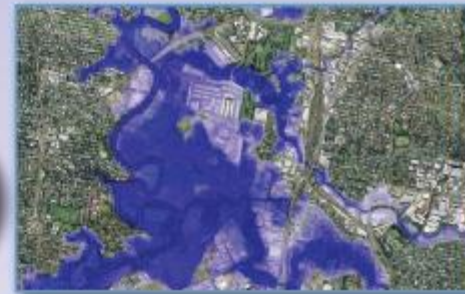
# Our model predicted 2011 Queensland floods costing the economy A\$10bn

**The 2010-2011 series of floods affecting Brisbane and Queensland, resulted in three quarters of the state being declared a disaster zone. Total cost to the economy was estimated at A\$10 billion.**

In January 2011, The Insurance Council of Australia calculated that 38,460 individual claims were lodged with insurers worth A\$1.51 billion. Flood risk is now perceived by many insurers as the natural peril with the highest loss-generating potential. As such, more detailed data is required to better manage and price the risk. AustraliaFloodMap™ provides insurers with the highest quality data and the reassurance of highly accurate validation results.



Above: Aerial photograph of the Sherwood district in Brisbane, showing extensive flooding



Above: Ambiental's Flowroute™ model of the Sherwood District showing a strong correlation to the actual flood event

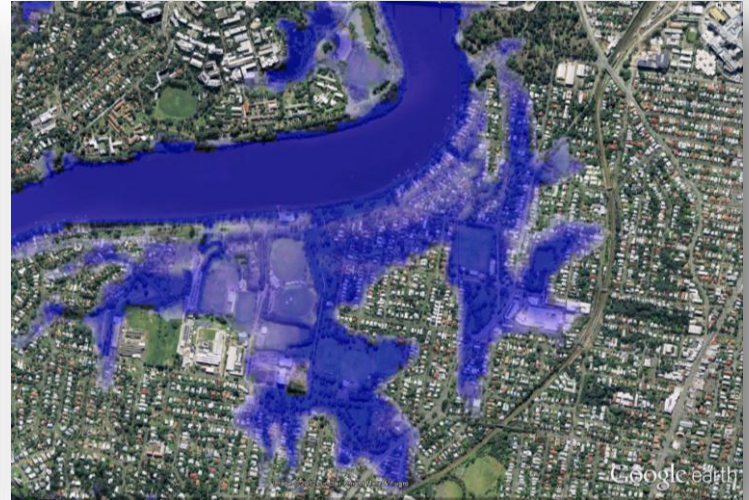
## View our highly accurate validation results

Aerial photography of Brisbane (pictured above right and below left) shows a very strong correlation between the actual flood events in January 2011 and those simulated by our Flowroute™ flood modelling technology. Validated flood models also include Sydney, Perth & Melbourne (~60% of Australian population).



# Australia FloodMap™ Validation

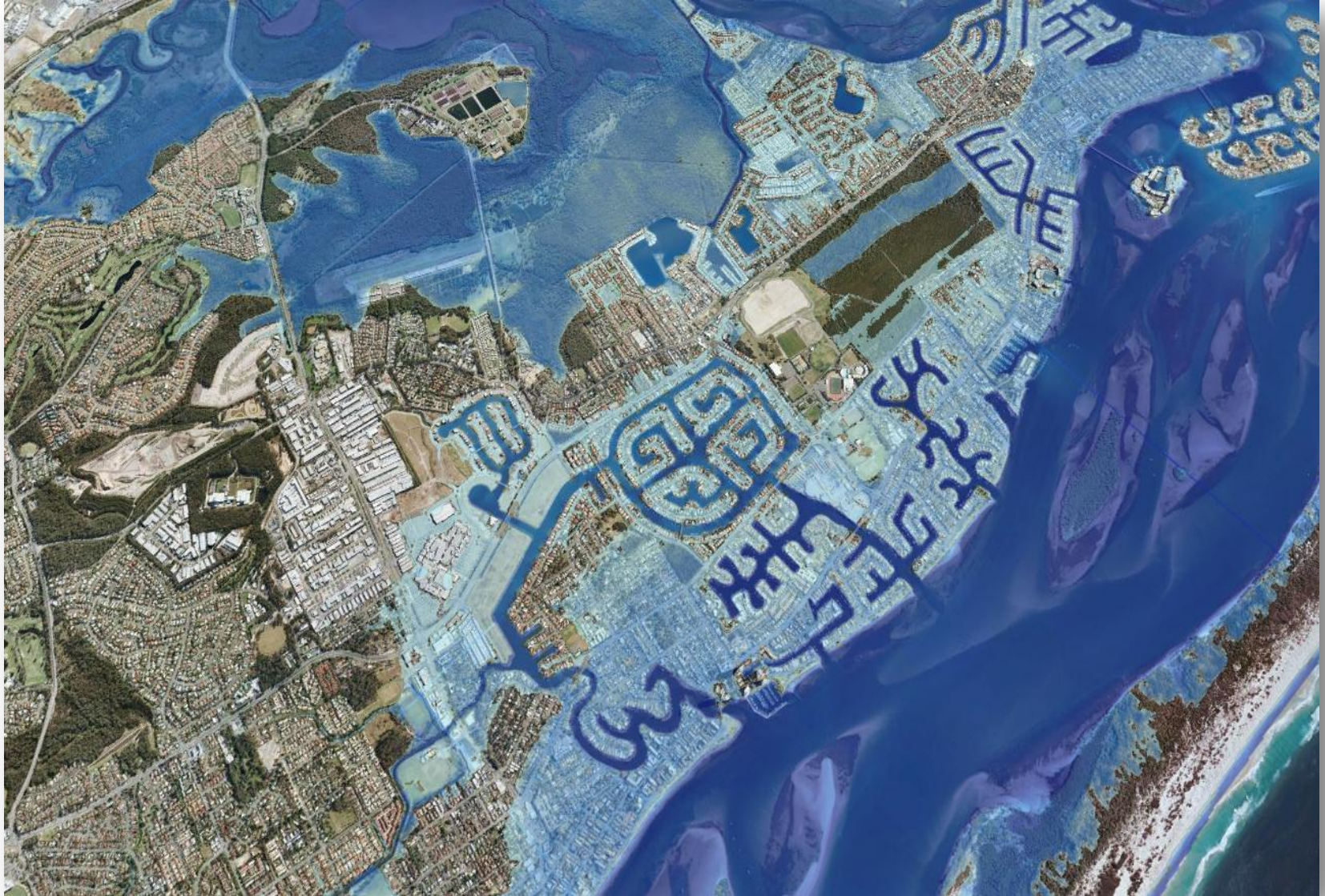
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# Australia FloodMap™

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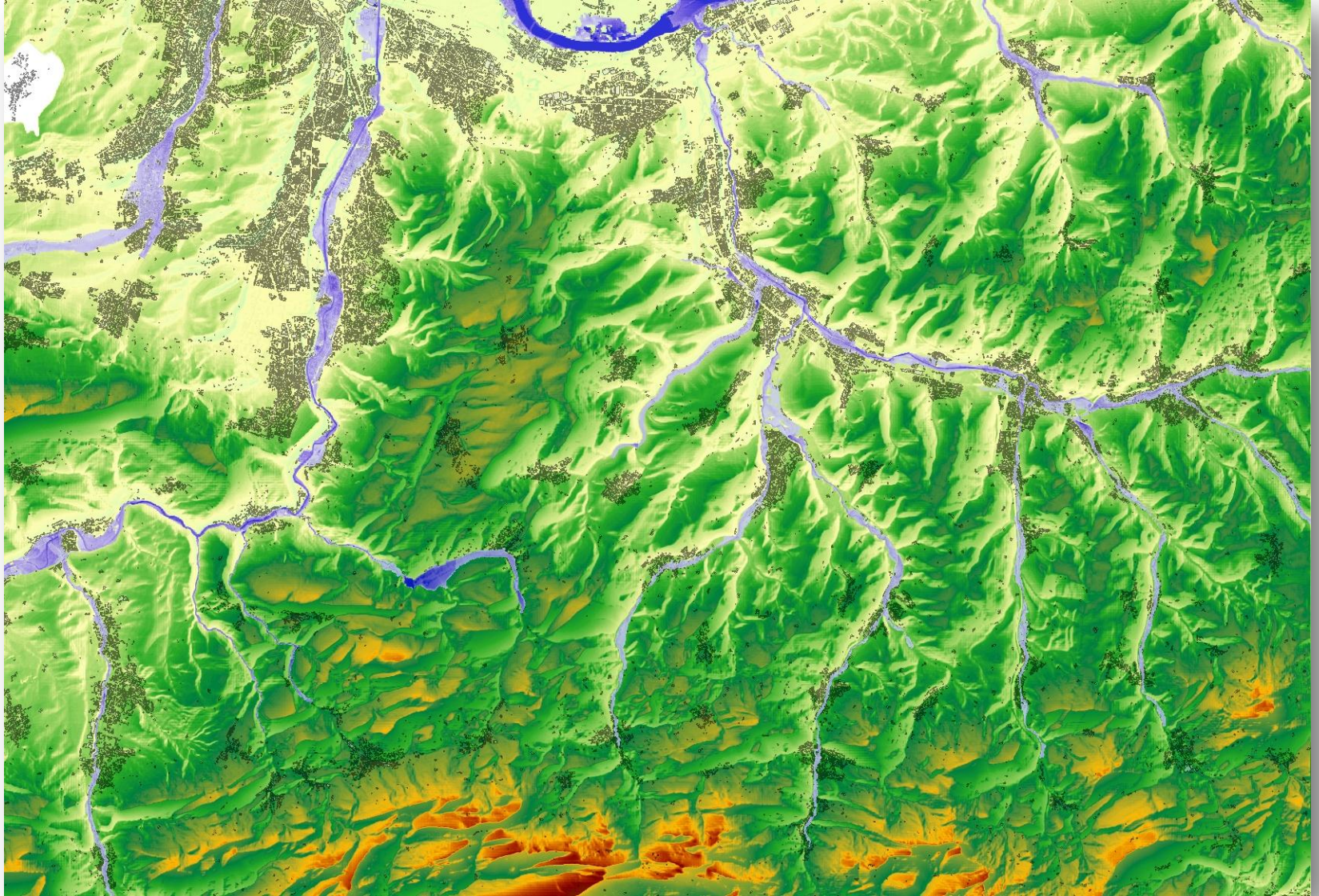
Image © 2012 Sinclair Knight Merz & Fugro

Google earth



# Swiss FloodMap™

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# Brazil FloodMap™

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# Ireland FloodMap™

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## Global Leaders in Flood Risk Assessment & Environmental Risk Modelling

- ✓ Flooding is a **growing problem**, both in the UK and internationally
- ✓ **Multiple stakeholders**, including insurers; governments and consumers
- ✓ Climate change, urbanisation and increased insurance penetration are **driving flood risk** exposure
- ✓ **New technologies** can be used effectively to better identify at-risk areas, enhance flood underwriting and improve flood forecasting/ emergency response
- ✓ Productisation and export-led growth, supported by well researched, managed expansion can be used to **supercharge scalability**.



## Contact Details

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