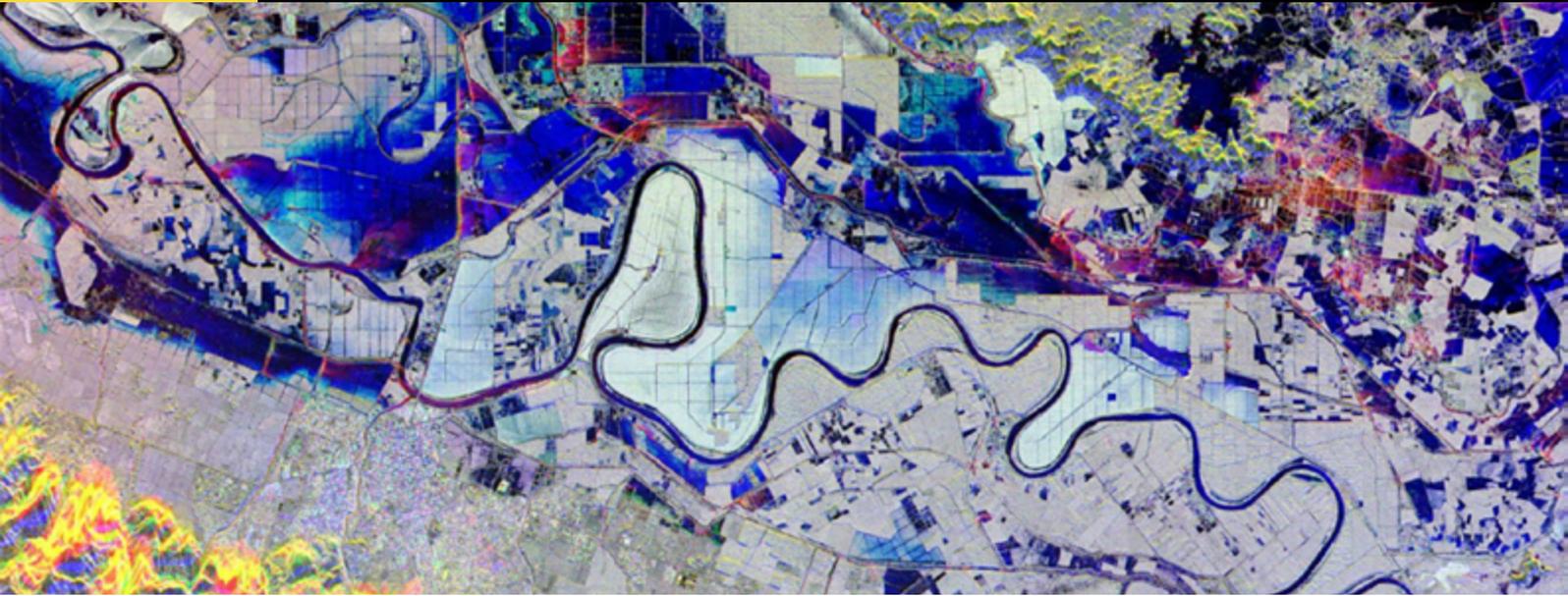




# DRIVING CLAIMS EXCELLENCE WITH TECHNOLOGY FOR FLOODING EVENTS

2021



Digital transformation and disruptive data are enabling insurers to rapidly identify losses and expedite claims for their customers with proven returns on investment. But how well prepared are claims departments to integrate these new assets into their current processes, and how can they use them to add real value?

This event focuses on how to build a better customer experience by managing claims with faster, more efficient, and innovative technologies. ICEYE reveals how an innovative approach for observation of natural catastrophes using synthetic aperture radar (SAR) paired with multi-source analysis techniques is radically changing flood claims management.

**Matthew Grant**  
InsTech London Partner

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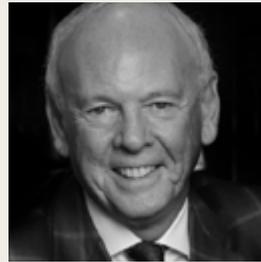
**ICEYE**

[Iceye](#)

## Speakers



**Charles Blanchet**  
ICEYE  
Vice President  
of Solutions



**Eddie Longworth**  
JEL Consulting  
Founder and  
Director

### Charles, tell us a bit about your background.

**CB:** I'm the VP of solutions at ICEYE. For the past 20 years I've been bringing innovative technologies to market, working with early adopters. My mandate at ICEYE is to democratise the data that's coming from our satellites. There's a long history of satellite companies making claims to transform and help the insurance industry, but they haven't come to fruition. My aim is to change that.

### Eddie, can you also tell us about your background?

**EL:** I've been in the claims and supply chain consultancy market for 25 years. I've been involved in developing new solutions, growing operations and business process reengineering. In the last five years I've been heavily involved in bringing technology solutions into claims departments.

### Charles, how does ICEYE operate?

**CB:** ICEYE operates the world's largest synthetic aperture radar satellite constellation. We currently have six in orbit, and we're about to have six more. The satellites can see through clouds, see at night and can detect really small changes. When I got into the business, there were 36 use cases and eight industries that I had to sort through to figure out where ICEYE should focus. Floods and insurance turned out to be the best area where we could offer a product.

In March last year, we partnered with Tokio Marine and Swiss Re and developed a global flood monitoring solution. To find out where floods are going to occur, we had to build software and hire meteorologists. We have flood teams and weather teams in Poland, California and Washington. At any given time we're monitoring 4-8 floods globally. Once we find a flood, acquire an image and downlink it from the satellites, we have to mix it with a huge cocktail of data in order to produce something that's valuable for the insurance industry. This data includes building footprints, river gauges and digital elevation models. The final product is very easy to consume - it can be as simple as a spreadsheet with four columns.

### **Eddie, what are you hearing in regards to using technology for assessing claims - how easy or hard is it?**

**EL:** Surprisingly, some of the biggest problems are not from the claims space. There's a huge demand on the IT capabilities of insurance companies, which consumes a lot of human resources. This means that when a new application comes along, it can be difficult to make it a top priority as the change stack is already full. On the other hand, technology is important to bridge the gap between human resource availability and demand.

### **Charles, what's important for supporting customers?**

**CB:** The customer is at the centre of every business. Tokio Marine is a very customer-centric organisation, and its focus is to pay customers faster - we've been working together on this for over a year. In terms of insurers' customers, ICEYE can notify them if flooding might occur and advise them to remove their valuables from the floor. This is more on the benign side, and on the extreme side we can save lives. We're going to start working with first responders and the government, which is how the business will save lives.

### **Is a commitment to customer experience new to claims departments?**

**CB:** It varies. Some insurers are completely driven by the customer experience - they want good retention rates. Other organisations are more interested in getting loss numbers quickly, reducing costs or building new products. At ICEYE we have kept our data simple, so it can be used for whatever focus or motivation insurers have.

**EL:** Having a sharp focus on customer experience saves insurers money, so it should be important to them.

### **Charles, how does ICEYE calculate the flood depth information from its satellites?**

**CB:** After downlinking an image, we do a multi-source analysis. It's partly automated, with humans also still in the loop. We need to know the height of the land, so digital elevation models are important. We also need to understand the hydrology of the area, which includes aspects such as water basins and flood defences. We use every data source, including videos from drones and webcams and optical imagery. Algorithms, machine learning and computer vision are then used with this data to produce the information file.

### **Charles, what's the vertical precision for hazard data in any given flood event?**

**CB:** We think of it in terms of mean absolute error. Any observation we give has a mean absolute error of 24-32 centimetres - meaning our observation is between plus or minus that many centimetres. We also apply a confidence score to every observation. There are observations that we're not very confident in, and we express that to our clients. When we have a high confidence score, clients can do aggressive things with that data.

### **Charles, how quickly do you get information to insurers?**

**CB:** Speed is critical - we're committed to getting data out within 24 hours. We understand that clients want to know the big picture immediately, so we let them know and then provide a more in depth analysis within 36 hours. ICEYE has a team dedicated to automating the process, so by the end of the year we should be able to do it in eight hours.

**Charles, can you talk about what you've seen with organisations and partners they're working with to make technology adoption happen more quickly?**

**CB:** This is a big topic at ICEYE right now - we call it the last mile challenge. What's interesting is that our deployments are 15% technology, 85% business process and reengineering. Getting the change implemented in organisations is the hard part. We've realised that we have to enable the customer to do all the work themselves, build a services organisation within ICEYE or we need to partner with third parties - which is what we're most excited about. For example, ABeam is a consultancy in Japan that has been working with us and Tokio Marine, and it has been critical in making us a success. EY and McKinsey are also potential partners.

**Eddie, what has your experience been around other organisations that are involved in the claims space - how effective are they in using technology and as enablers for insurance companies?**

**EL:** When a company wants to bring in new technology, how it's going to be done needs to be decided. The vendor can help, be that through using consultants or having people in its own team. When trying to sell technology, the technology should take the lead, but the support services that go alongside it can be mission critical. ICEYE's concept of getting external partners to help insurers with implementation could solve the resource gap. It could also help with the capability gap - there's only so many data analysts in the world, and vendors are paying a lot of money to keep them.

**CB:** Even if companies have the capability, an organisation coming in at an advisory level can be helpful. ICEYE wants to create a body of knowledge, so each insurer doesn't have to figure everything out from scratch.

**Charles, what is the temporal resolution of the data?**

**CB:** How often the SAR satellite goes over a place depends on its location. We have a polar orbit, so the further away a place is from the equator, the more often that area will be seen. For example, as England is quite north, we'll pass areas of interest there 8-10 times a day. If the satellite doesn't get to an area fast enough, ICEYE has other data sources and methodologies to engineer the high watermark.

**Charles, how have you tackled the issue of urban areas with the SAR data?**

**CB:** We use multi-source analysis - SAR wouldn't be able to do it. Now that ICEYE's constellation is getting really robust, we're having increased capability so that we can fuse imagery together.

**Charles, talk to us about your triage.**

**CB:** When we deploy our data to clients, they segment it into zones and then craft business rules and workflows from those zones. Zone one includes proactive outreach such as text messages and emails to clients. On the other end, zone four is where clients are saying that they're going to automate payments, even on indemnity based policies as there is deep flood and high confidence data. Between these zones, our data can be corroborated with other technologies or data points to figure out whether insurers should automate payment.

**The world of video and imagery analysis undertaken by policyholders or semi-qualified people is growing. It is a way of trying to overcome logistics and resource problems - Charles, do you see this as competition?**

**CB:** ICEYE doesn't see this as competition. We provide macro global fast data, and if we need some help we love these other data points. An example is when a policyholder takes a photo of their house with the insurer's mobile app, sign saying they swear to it, and ICEYE's data says the same thing as what's being shown. As a result of this, there might not be any need to send someone out and the claim can be processed remotely.

Part of our success is not getting hung up on the fact that we're a satellite provider. We're humble enough to use all data that's available - there is no superior data point.

**Charles, how do you reconcile the ability to make a payment quickly with wanting to keep the contractors under control?**

**CB:** There is a contention between fast payments and fraud, waste and abuse. ICEYE isn't the antidote to all of that, but we're part of the solution. We're an observation company, and that gives companies confidence to move faster.

**Charles, what is ICEYE doing on parametric insurance?**

**CB:** We're doing a lot of work on parametric insurance with Swiss Re, which is a leader in this concept globally. We're also doing business with a small innovative company called Descartes.

Insurers used to look at river gauges, which can cause problems. If there is a trigger there isn't necessarily a flood, and policyholders may get a check in the mail despite having no damage. On the other hand, a gauge may not trigger even when there is a flood, and then the customer is unhappy. ICEYE reads the hazard at the building level, dramatically reducing the basis risk for everyone involved.

Right now, we're working on a project at a country level in Africa. We're working with the government, so we can tap into the video network that the government owns. We're also exploring the concept of deploying ground based sensors. Through doing things like this, we can bring a country online and ready it for parametric, starting with the government and then rolling it into the commercial and residential side.

**Eddie, what's your view on parametric?**

**EL:** The fear from a claims and underwriting view is that it's inaccurate. If a plane doesn't take off, there is 100% certainty and parametric insurance works well. But in the case of flooding and property damage, there is difficulty with the degree of error. Insurers have to price this degree of error into the product, and then they may price themselves out of the market. Overall, parametric has a lot of applications in smaller personal lines areas, but in the big commercial space there's still a way to go.

**Charles, what have you seen be successful in getting organisations to support ICEYE?**

**CB:** Firstly, get senior leadership involved early - most of our agreements are signed off by the CEO of the company. Secondly, we can work with organisations to safely start testing our offering. We can write a lightweight contract for a low cost - organisations

can't operationalise the data, but they can see what it's like to receive the data. Organisations can get started with us from as little as \$50,000.

### Eddie, what's your advice for getting the senior level on board?

**EL:** Buy-in at a senior level only comes from multifunctional support at a lower level. Internally, silos have to be broken down, otherwise no one will get C level attention. Going straight up the claims ladder doesn't work because it's not important enough.

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**ICEYE** offers the Insurance industry transformative capabilities via a world-leading constellation of synthetic aperture radar satellites. ICEYE's Flood Monitoring Solution provides the insurance industry with near real-time flood extent and depth data at the building level within 24 hours of a flood's peak. This data enables claims automation & efficiency, and the calculation of overall flood losses to be estimated faster and more accurately than using models. ICEYE is currently developing a portfolio of natural catastrophe solutions that produce wind, earthquake, and wildlife damage data.

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