

## InSync Technology Ltd - your trusted OEM partner

World-leading product development can make or break a company. Investment in people, methods and equipment is costly, and competitive pressures mean that time to market is critical. What can you do if you have a great product idea but don't have the in-house skills or resources to deliver it?

Since its founding in 2003, InSync has been a pioneering developer of highly efficient signal processing technologies, which have led to the creation of advanced video and audio products for the professional broadcast industry. Over the years, InSync has responded to an ever faster rate of change in multimedia production and distribution standards and workflows, to create highly innovative solutions that were unthinkable just a few years ago.

Many of InSync's most successful products were created in collaboration with OEM partners. With a skilled team of developers, designers, engineers and technicians, InSync Technology has provided agile teams, able to turn client concepts into market-ready products. Some collaborative projects result in co-branded products, such as the FOR-A/InSync co-branded MCC-4K-A, motion compensated standards converter, but many more are "white label" products, where InSync's genius is hidden behind the client's branding.

### Partnership for ground-breaking 8K innovation

InSync's partnership with FOR-A is one example of where InSync was able to offer design, development and manufacturing services to address a short-term market need. FOR-A recognised a need for 8K products for Japanese customers, and identified that collaboration with InSync would achieve a time-to-market advantage.

The outcomes were the highly successful InSync/FOR-A IF8K-FSCC and IF8K-UCN, which offer incomparable 8K synchronisation, colour correction, and upconversion.

"We have enjoyed working with InSync Technology over several years," said Hiroaki Tanoue, Deputy Senior General Manager, Import Department at FOR-A. "They are highly professional and knowledgeable, and also a great team to collaborate with."

### Paving the Way: Development to Delivery to Support

InSync has a long history of working with leading media technology vendors as OEM customers. In addition to shepherding new products from idea to installation, the company provides support well beyond the sale.

Because InSync comes to each project with unique expertise in video conversion and image processing, its partners can design and deliver new products without as the significant investment associated with building internal skills and knowledge. They can target and address a market need with much greater agility.

With years of success in creating reliable hardware-based devices for specific processing tasks, InSync is among an increasingly rare group of



companies with the know-how to build the devices that continue to drive processing for live event broadcasting. The challenges of live production and international programme distribution continue to grow, with competitive pressures on broadcasters to deliver the highest resolution, most subjectively pleasing content to global audiences. InSync Technologies' deep expertise in 4K, 8K, high frame rate, and High Dynamic Range (HDR) processing makes them an ideal partner to help you bring your new product to market.

Every project with an OEM partner is different because each customer has specific objectives and market ambitions, as well as a preferred way of working. However, every project needs to follow a defined process with review points to ensure success.

### Step 1: Product Design and Specification

New product ideas typically arise as a result of discussions between InSync marketing and engineering staff and the OEM customer. Often there are gaps in the market which can be filled by a new product or a variant of an existing product, but careful discussion and sales modelling are needed to determine if the opportunity is likely to be profitable for both parties.

Once InSync and its OEM customer agree on the high-level product definition, they begin an iterative process of product specification. Commercial and technical teams on both sides give input to ensure that all required features and functionality are clearly defined, and that a technically feasible product will result. At this point, the commercial terms of the OEM arrangement are agreed, and a contract is established.

"It's often at the specification stage that we tease out some of the most innovative aspects of the project." said Piers Godden, Business Development Director at InSync Technology Ltd. "When you start to firm up the product concept with the client, that's when you begin to articulate the differentiating elements".

### Step 2: Product Development and Validation

Working from the user-facing product specification, the InSync engineering team defines the technical specification of the product. If hardware is to be developed, the team starts from a mechanical form factor proposal and, with approval from the OEM partner, designs the elements (circuit boards) that will make up the end product.

Working in parallel, the product manager confirms the functional control specification with the OEM customer, and the software team starts building the user interface elements which will control the product. As soon as development hardware is available, InSync's firmware team start testing individual components of the architecture, iterating toward integration of all the pieces, along with the UI.



Product validation starts as early as possible. In this stage, InSync's validation engineers test each feature and essential technical parameters to ensure that the product meets international standards for signal integrity and performance. They arrange for electrical and safety testing, along with any other required external compliance validation (e.g. HDMI, Dolby E).

Tim French, Head of Firmware at InSync Technology explains “Over the years, we've built up extensive design knowledge for a range of FPGAs including Intel and Xilinx devices. We make sure we keep up-to-date with the latest development tools, libraries and design methodologies. Our products become ever more complex with greater demands placed on signal processing equipment as standards evolve, so we in turn have to create more sophisticated system architectures which use increasingly powerful FPGAs.”

### Step 3: Product Test and Manufacture

InSync offers the OEM partner a full manufacturing service once pre-production units have passed validation. If the partner prefers to arrange their own manufacturing, InSync can provide just the design service, where full specifications, design files, layouts etc are supplied to the partner. However, given the advantageous price and convenience of InSync’s turnkey service, most OEM partners choose the full service including manufacture. Products are manufactured in the UK, with full assembly and test functions carried out at InSync’s Petersfield site. It is at this stage that the product manual, applications notes, and any supporting marketing materials are created, using the OEM partner's branding and style rules.

“A full production test is carried out for every product before it leaves InSync.”, said Charlotte Swanton, Operations Director at InSync Technology Ltd. “Also, we take great care in choosing robust and environmentally friendly packaging to ensure that products reach the customer in good condition, wherever in the world we send them”.

### Step 4: Post-Sale Support

All products manufactured by InSync are guaranteed for a minimum of 12 months, and the company offers a repair service for up to five years from product delivery. Simple repairs, such as replacing external elements e.g. control buttons, are usually handled as soon as a product is returned for repair. More complex repairs can take longer, but InSync takes pride in looking after customers and works to support even those products which are returned after many years of intensive end-customer use.

Denise Parkinson, Senior Production Technician at InSync Technology Ltd is very experienced in tracking down problems “It's not unusual for us to investigate faults on products which have been out in the field for several years, and some faults can be quite difficult to diagnose, but we usually find a solution which is good for the customer.” she said.

### You can trust the team

With literally hundreds of years of combined experience, the InSync team covers all areas needed for successful collaborations. In addition to academic qualifications, such as PhD and BSc, InSync staff hold a range of vocational and trades qualifications in all areas needed for successful project delivery including project management and quality.



If you would like to find out more, please contact Paola Hobson, Managing Director (Phone: +44 1730 264555 or email [enquiries@insync.tv](mailto:enquiries@insync.tv))