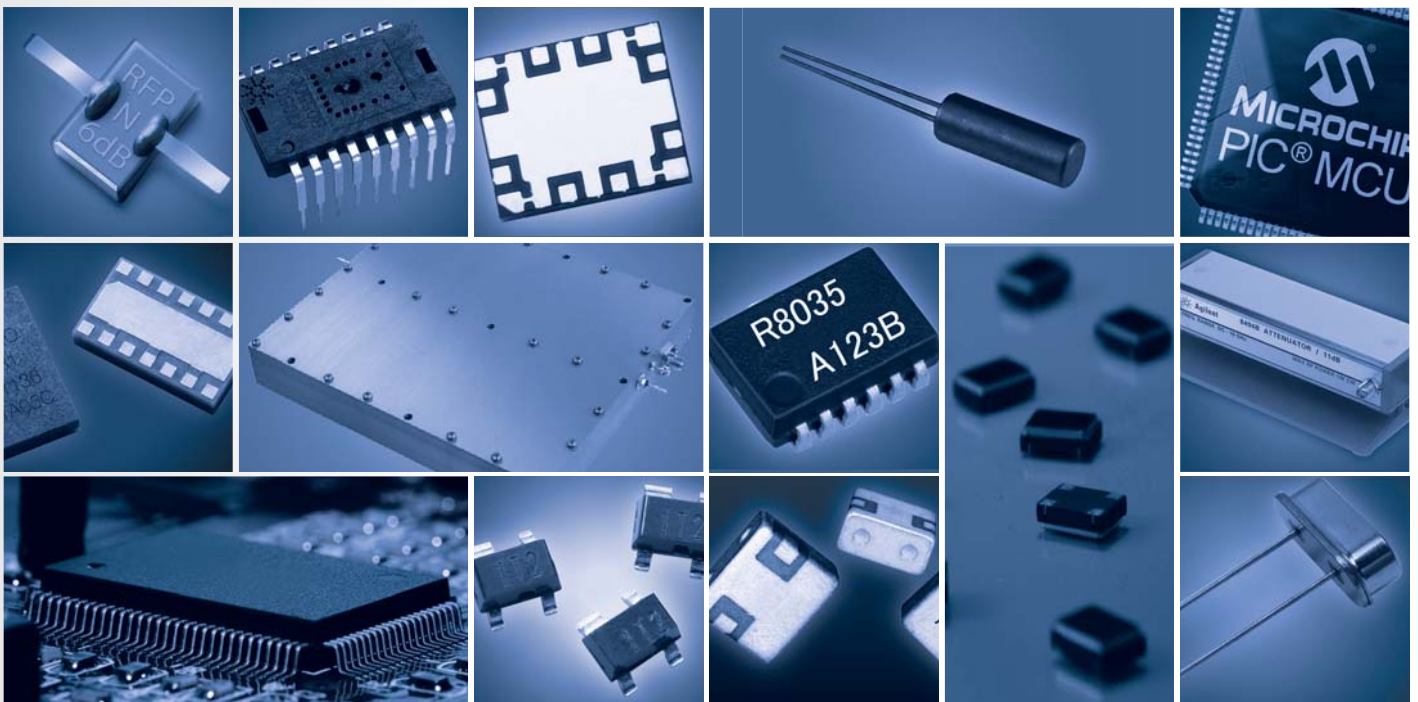


# Semiconductors

European leader in advanced technology solutions



## About Acal BFi

Acal BFi are Europe's leading provider of advanced technology solutions, operating in 12 countries throughout Europe.

We offer products across specialist technology areas, each with a dedicated pan-European sales team. Customers use our design-led expertise and expert consultation services to find the best technology solutions for their design, prototype and production needs.

## Get in touch

Eindhoven  
Tel: +31 (0)40-2507 400  
Fax: +31 (0)40-2507 409  
Email: [sales-nl@acalbfi.nl](mailto:sales-nl@acalbfi.nl)

[www.acalbfi.nl](http://www.acalbfi.nl)

## Products and support

Cables and Connectors

Embedded computing

Imaging

Magnetic components

Power

**Semiconductors**

Electromechanical

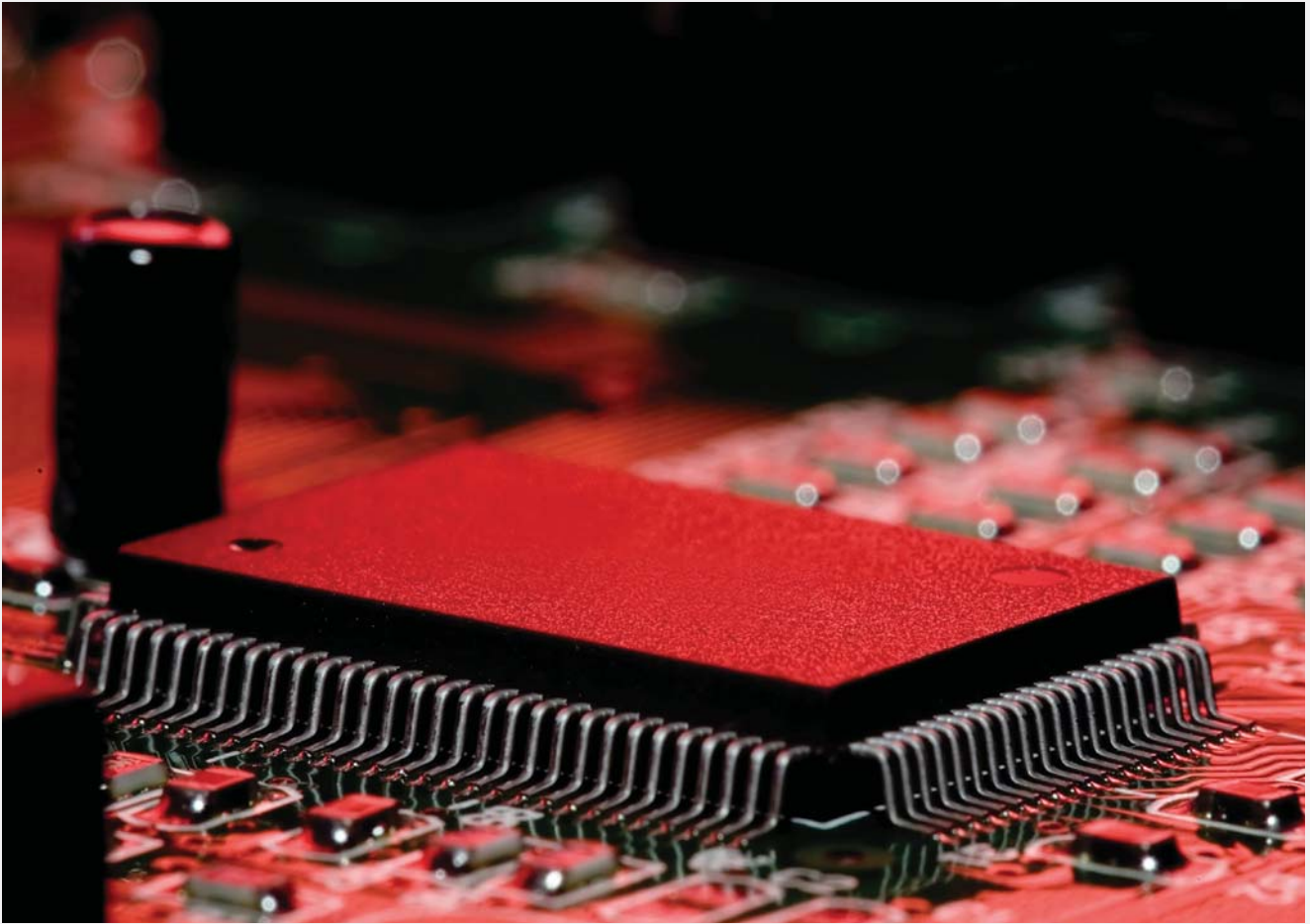
Fibre optics

M2M and Wireless modules

Photonics

RF and Frequency control

Sensors



## A wide range of cutting-edge semiconductor solutions

We provide a wide range of semiconductor solutions from class-leading, global manufacturers, so our customers benefit from the most advanced technology available. This range includes cutting-edge, application-specific processors and ancillary products, as well as the latest storage technologies. Our field application engineers can help you find the optimum solution for your application.

## Rely on our semiconductor technical experts to ensure fast, dependable support

Our field-based, factory-trained experts are available to support you throughout the design process, reducing your development time. Once your design moves into production, we provide a logistics model to suit your requirements, reducing production costs and cost of ownership.

**consult. design. integrate.**

## Support from design to production

Acal BFi combine a portfolio of the industry's most advanced technology with specialist expertise to deliver design consultancy, programming and logistics services that deliver the best possible solution for your application.

### Designing to your requirements

- **Design consultancy** – our highly qualified and experienced application engineers continually review and assess new products and technologies from the industry's leading manufacturers. Our engineers have access to the latest product development design roadmaps, which means they can work with your design teams to select the best building blocks for your design and fine tune your products for maximum performance, whilst achieving an accelerated time to market.
- **Device programming** – we will work with you to deliver FLASH-based microcontrollers fully programmed with your code, giving you devices which can be directly used in the manufacturing process with no additional processing steps. You will be able to order using a bespoke part number to avoid mistakes and simplify inventory management. All programmed devices are programmed using manufacturer-approved programmers in our ISO9001-accredited facilities, with device handling in line with appropriate JEDEC recommendations and standards.
- **Production services** – to streamline your procurement and production process we offer a number of packaging options, as well as custom kitting and barcoding, and all complete devices will be supplied marked according to your requirements to ensure a smooth process. We can also deliver products based on different logistics models including just-in-time, Kanban and ship-to-line, so you can choose the most efficient option for you. As well as these services we can now offer even more.

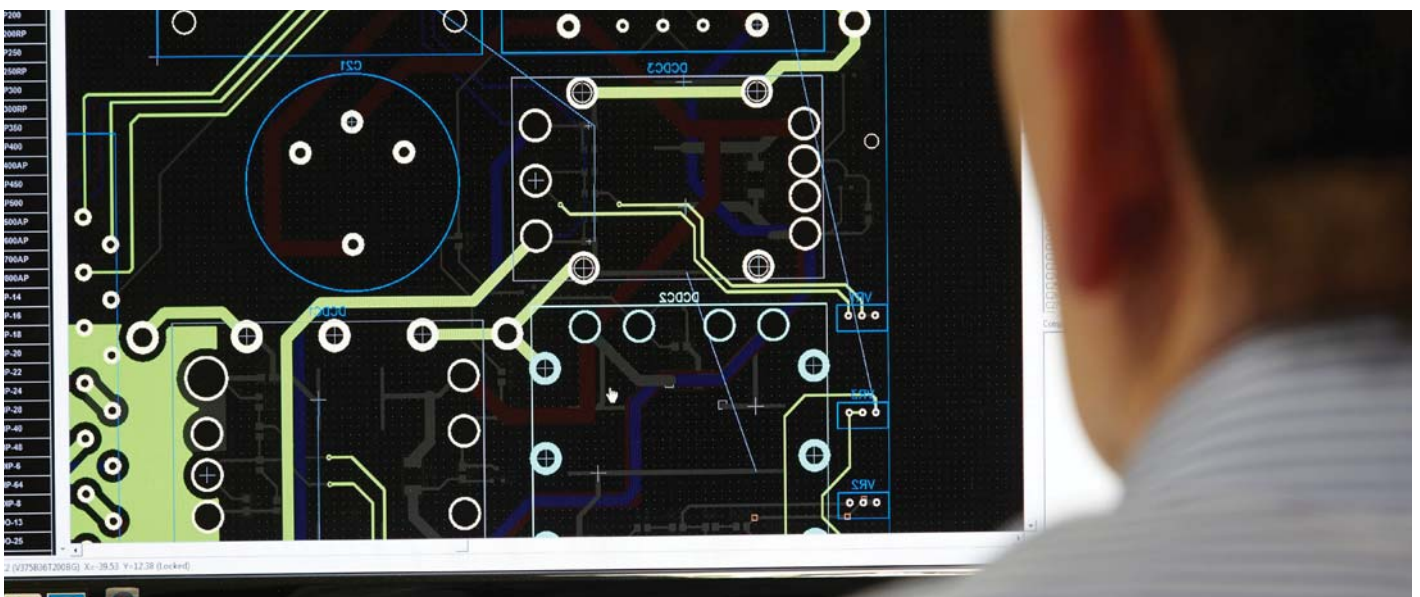
### Introducing Locator

Established for more than 25 years and now operating as part of Acal BFi, Locator are a specialist sub-contract manufacturer with a range of services that go far beyond just manufacturing. These solutions can be tailored to individual customer needs and include:

- component sourcing and supply
- logistics and stock management
- kitting and production management, and
- prototyping, PCB assembly, manufacturing and test.



Give us a call to discuss how we can help with your challenges.



## Key partners overview

Acal BFi work with the leading manufacturers in their field, offering you a complete solution for all your semiconductor needs.



**Advanced Crystal Technology (ACT)** are an established leading global supplier of frequency control products. They provide a vast portfolio of standard products, they can provide custom products on short lead times, and they have in-house test facilities.



**Adlink** are a world-class provider of industrial components and application platforms, including SATA memory for embedded computing, measurement and automation applications.



**Applied Micro** are a global leader in computing and connectivity solutions for next-generation cloud infrastructure, high-performance computing and data centres. With a strong heritage in innovation, and commitment to energy efficiency, AppliedMicro are bringing breakthrough technology advances to telecommunications, data centres, enterprise and consumers. They have created the world's first server-on-a-chip solution based on ARM 64-bit processor technology.



**Cavium** provide a broad portfolio of highly integrated multi-core MIPS processors for processing applications with strength in deep packet inspection and security offload cards for load balancing in virtualised environments and cloud servers.



**Delkin Devices** specialise in rugged controlled storage products with enhanced shock and vibration specifications and industrial temperature ranges for extreme environments.



**Epson** are the world's largest producer of high-quality, crystal-based electronic devices and applied technologies.



**GSI Technology** -design and develop the market's largest portfolio of high-speed, synchronous SRAM and LLDRAM (low latency DRAM) products for networking, military and medical applications.



**HGST**, a Western Digital company, develop innovative, advanced hard-disk drives, enterprise-class solid-state drives, external storage solutions, and services used to store, preserve and manage the world's most valued data.



**Microchip** are the leading provider of microcontroller, analogue and memory technology, offering a broad portfolio of wired, wireless and low-power solutions which are cost effective, low risk and deliver faster time to market.



**New Japan Radio (NJR)** have been designing and producing microelectronic and microwave technologies for nearly half a century. They have expertise in broadcasting, satellite, terrestrial communications and security applications.



**Skyworks** are an innovator of high-performance, analogue semiconductors.



**Swissbit** are a specialist in the memory industry that design and deliver high-quality, but cost-effective, DRAM and solid-state drives, such as compact flash, 2.5 inch drives, MO297, MO300, SD and microSD. The products are used in demanding commercial and industrial applications.



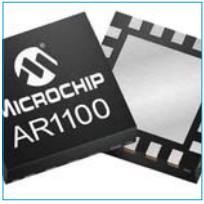
**Taitien** are a leading manufacturer of quartz-based frequency control products, including crystals and oscillators.



**Winbond** are an innovative memory IC company providing customer-driven solutions backed by proven expertise. They deliver DRAM, NOR Flash and Memory IC products for consumer, communication and automotive applications.

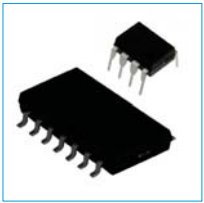
# Key technologies and suppliers

## The Acal BFi semiconductor portfolio



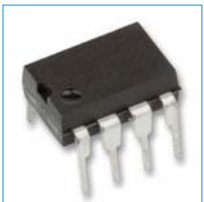
### Analogue / mixed signal

- A-to-D converters
- Battery chargers
- Comparators
- CPU / system supervisors
- OP amp
- Power MOSFET drivers
- Switching regulators
- Temperature sensors



### Audio / special function

- Audio processors
- DSP
- Audio effects
- 3D audio processors



### Memory and storage (board level)

- DRAM
- EEPROM
- FLASH
- SDRAM
- SRAM



### Memory and storage (system level)

- Compact flash
- FLASH
- Micro SD card
- Solid-state drives (1.8 and 2.5 inch)



### Telecom / datacom (Phy / SERDES / Framer)

- Ethernet / packet opticals
- OTN
- SDH / SONET



### Microprocessors

- ARM – 64 bit
- MIPS – 64 bit
- PowerPC – 32 bit
- Security processors
- Video processors



### 8-bit microcontrollers

- A/D converter
- Capacitive touch interface
- Comparator
- EEPROM
- Timers
- MSSP
- PWM
- UART
- USB

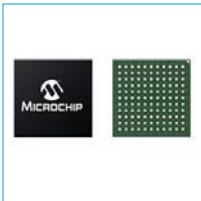




### 16-bit microcontrollers



- FLASH-based program memory
- On-chip peripherals include:
  - A/D converter
  - Capacitive touch interface
  - Comparator
  - D/A converter
  - DMA
  - Operational amplifier
  - PWM
  - Timers
  - UART



### 32-bit microcontrollers



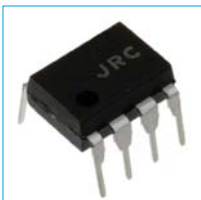
- FLASH-based program memory
- On-chip peripherals include:
  - A/D converter
  - CODEC
  - DMA
  - Ethernet
  - I<sup>2</sup>C
  - PWM
  - SPI
  - Timers
  - UART
  - USB



### Microprocessor peripherals



- I<sup>2</sup>C to parallel converters
- Serial to parallel converters
- Monolithic timers
- Input key scanners



### Video switches



- Multiple input switches
- Video imposers / super imposers
- Video switch matrix



### Crystals, oscillators and real time clocks



- Ceramic resonators
- Crystals
- VCO and OCXO
- Oscillators
- PLL
- Real time clocks
- TCXO and VCTCXO
- Watch crystals

	Analogue / mixed signal	Audio / special function	Memory and storage (board level)	Memory and storage (system level)	Telecom / datacom (Phy / SERDES / Framer)	Microprocessors	8-bit microcontrollers	16-bit microcontrollers	32-bit microcontrollers	Microprocessor peripherals	Video switches	Crystals, oscillators and real time clocks
ACT												•
Adlink				•								
Applied Micro					•	•						
Cavium						•						
Delkin				•								
Epson												•
GSI Technology			•									
HGST				•								
Microchip	•		•			•	•	•	•			
New Japan Radio		•								•	•	
Skyworks	•											
Swissbit				•								
Taitien												•
Winbond			•									



Acal BFi Belgium  
Lozenberg 4  
1932 Zaventem  
Belgium

Tel: +32 (0)2 720 5983  
Fax: +32 (0)2 725 1014  
Email: [sales-be@acalbfi.be](mailto:sales-be@acalbfi.be)



Acal BFi Nordic AB (Denmark)  
Jernbanegade 23 B  
DK-4000 Roskilde  
Denmark

Tel: +45 70 26 22 25  
Fax: +45 70 26 22 21  
Email: [info@acalbfi.dk](mailto:info@acalbfi.dk)



Acal BFi Nordic AB (Finland)  
Teknobulevardi 3-5  
FI-01530 Vantaa  
Finland

Tel: +358 207 969 770  
Fax: +358 207 969 771  
Email: [info@acalbfi.fi](mailto:info@acalbfi.fi)



Acal BFi France SAS  
4 Allée du Cantal  
Z.I. La Petite Montagne Sud  
CE 1834 - Lisses  
91018 EVRY Cedex, France

Tel: +33 (0)1 60 79 59 00  
Fax: +33 (0)1 60 79 89 01  
Email: [sales-fr@acalbfi.fr](mailto:sales-fr@acalbfi.fr)



Acal BFi Germany GmbH  
Assar-Gabrielsson-Straße 1  
63128 Dietzenbach  
Germany

Tel: +49 (0)6074 4098 0  
Fax: +49 (0)6074 4098 110  
Email: [sales-de@acalbfi.de](mailto:sales-de@acalbfi.de)



Acal BFi Germany GmbH  
Oppelner Straße 5  
82194 Gröbenzell  
Germany

Tel: +49 (0)8142 6520 0  
Fax: +49 (0)8142 6520 190  
Email: [sales-de@acalbfi.de](mailto:sales-de@acalbfi.de)



Acal BFi Ireland  
Unit 14G  
Maynooth Business Campus  
Maynooth, Co. Kildare  
Ireland

Tel: +353 1 629 2640  
Fax: +353 1 629 2637  
Email: [irishsales@acalbfi.co.uk](mailto:irishsales@acalbfi.co.uk)



Acal BFi Italy SRL  
Via Cascina Venina n.20/A  
20090 Assago (MI)  
Milan  
Italy

Tel: +39 02 53583.1  
Fax: +39 02 53583201  
Email: [sales-it@acalbfi.it](mailto:sales-it@acalbfi.it)



Acal BFi Italy SRL  
Via Alessandro de Stefani 60  
00137 Roma  
Italy

Tel: +39 06 86894259  
Fax: +39 06 86895354  
Email: [sales-it@acalbfi.it](mailto:sales-it@acalbfi.it)



Acal BFi Netherlands BV  
Luchthavenweg 53  
5657 EA Eindhoven  
The Netherlands

Tel: +31 (0)40 250 7400  
Fax: +31 (0)40 250 7409  
Email: [sales-nl@acalbfi.nl](mailto:sales-nl@acalbfi.nl)



Acal BFi Nordic AB (Norway)  
Gigstadsvei 22  
3511 Hønefoss  
Norway

Tel: +47 (0)32 16 2060  
Fax: +47 (0)32 16 2069  
Email: [info@acalbfi.no](mailto:info@acalbfi.no)



Acal BFi Iberia SL  
C/ Anabel Segura,  
7 – Planta Acceso  
28108- Alcobenas, Madrid  
Spain

Tel: +34 91 453 1160  
Fax: +34 91 539 4404  
Email: [sales-es@acalbfi.es](mailto:sales-es@acalbfi.es)



Acal BFi Nordic AB (Sweden)  
Rissneleden 138  
SE-17457 Sundbyberg  
Sweden

Tel: +46 (0) 8 5465 6500  
Fax: +46 (0) 8 5465 6565  
Email: [info@acalbfi.se](mailto:info@acalbfi.se)



Acal BFi Nordic AB (Sweden)  
Fålhagsleden 59  
Box 3002  
SE-750 03 Uppsala  
Sweden

Tel: +46 (0)18 56 58 30  
Fax: +46 (0)18 69 66 66  
Email: [info@acalbfi.se](mailto:info@acalbfi.se)



Acal BFi UK Limited  
3 The Business Centre  
Molly Millars Lane  
Wokingham  
Berkshire, RG41 2EY  
UK

Tel: +44 (0)1189 788 878  
Fax: +44 (0)1189 776 095  
Email: [sales-uk@acalbfi.co.uk](mailto:sales-uk@acalbfi.co.uk)



Acal BFi UK Limited  
Challenge House  
Sherwood Drive  
Bletchley, Milton Keynes  
Buckinghamshire, MK3 6DP  
UK

Tel: +44 (0)1189 788 878  
Fax: +44 (0)1189 776 095  
Email: [sales-uk@acalbfi.co.uk](mailto:sales-uk@acalbfi.co.uk)