

INSIGHT

ALGRA GROUP

PERFECT TOUCH



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Summer 2019



Thank you for your partnership! – We are celebrating 90 years of gravuretec, 60 years of Algra and 5 years of connect tec.



History of the Algra Group



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Dear Business Partner,

Algra Group AG is celebrating anniversaries: 90 – 60 – 5 years. gravuretec has existed since 1929, Algra was founded in 1959 and connect tec is also almost five years old. Together with our close partner Trimada AG, these companies form the Algra Group. From this year, all the locations have been combined under the name Algra tec AG. This represents industrial history and also progress and modernisation. It all started with engravings and aluminium graphics, and then industrial signs evolved into more complex fronts with input controls. Aluminium was and still is the predominant medium used. As a result of its innovative approach, Algra developed and patented an input technology in the 1980s that detects the lightest of keystrokes on aluminium. Decades of experience, precision working and an innovative approach – this is what today's Algra tec AG is all about.



Kind regards,

Dieter Matter
CEO

ALGRA
industrial technology

gravuretec
precision works

connect tec
worldwide technologies

TRIMADA
electronic systems



HISTORY OF ALGRA

'Within ten years, Algra had worked its way up to become the market leader.'

In 1959, the owners Max and Hans Schenk, together with their father, founded ALuminium GRAPHic AG. The reason behind doing this was the invention of a process for producing weatherproof, high-precision images on metal. Soon afterwards, the company that was initially set up in the old cheese dairy in Dietwil could no longer keep up with the rapid demand.

The company therefore relocated to Merenschwand in 1964, where it was possible to commission bigger, more advanced equipment at the company's own purpose-built premises. The ongoing success demanded further additions: an administration building in 1969, a new building with an automatic anodising line in 1972 and the creation of the new NC stamping department in 1974. Within ten years, Algra had worked its way up to become the market leader.

The innovative spirit originating from the founding period under the Schenk family has remained with the company throughout the years. In the 70s, Algra was a pioneer of membrane keyboards. In the area of graphic screen printing, strip conductors were soon also printed. Later, by using piezoelectric crystals on metallic surfaces, primarily aluminium, delicate touches could be detected on the input front. A minute distortion of just a few microns was sufficient to detect a keystroke. And so DYNAPIC was invented. In the 90s, Algra developed the extravagant DYNASIM technology that enabled the printing of DYNAPIC.

The diversification from producing industrial signs and fronts to input systems was an important move in the 90s. Demand for industrial signs was reducing and sales of input systems were steadily growing. Orders from abroad also increased. Innovation continued at Algra, including after Hans Schenk handed over the reins to Dieter Matter in 2001. DYNAPRINT – digital printing in the pores of the oxide layer on aluminium – was developed in the noughties. This made small batches more cost effective. Four-colour printing was added shortly after. For DYNAPIC WIRELESS, the piezoelectric energy generated by the keystroke is used for the transmission of a coded radio signal. The latest development is called DYNAFORCE: based on strain gauges, small force sensors measure the slightest keystrokes on fronts made from metal, glass, plastic or any other material compositions. The change from being a commercial to an industrial business was underlined by the introduction of SAP ERP 2012.



HISTORY OF GRAVURETEC

In 1929, Chemische Gravieranstalt AG relocated from Nidau to Erlach and thereafter called itself Gravure SA. Strictly speaking, Chemische Gravieranstalt AG existed as early as 1926, but was then based in Nidau. The crisis period of that time also caused problems for the company. The efforts made by the Erlach municipality to attract industry were opportune for the management at the time.

This positive development encouraged the management to make a number of extensions to the production and its premises. By 1989, Gravure SA had managed to secure itself a significant market share in its field – within Switzerland. When asked about this, the Director at the time, Peter Howald, gave a simple explanation: 'Our success is no secret. We did what many others also tried to do: we adapted to the requirements of the diverse sign market and were never afraid to leave conventional ways behind and adopt new production methods and technologies.'

In the early days, as its name 'Chemische Gravieranstalt' (chemical engraver) suggested, products were predominantly chemically etched. After that, the signs and front plates underwent multi-coloured anodic oxidation or were stove-enamelled. Flat offset and screen-printing processes were employed. Products were stamped, machined, welded, riveted and glued in the spacious, modern production facilities, as they still are today. If the watch industry was the best employer in the past, today it is the diverse electronics and engineering industry.

In the early 90s, the company extended its product range to include fronts made from film. Martin Strehl took over the company in 2009 and the production of high-end enclosures in aluminium began. The company's evolution into a finishing centre for aluminium parts with control of the entire process chain has progressed steadily ever since. The production of aluminium parts involves a series of processes, all of which have been developed by gravuretec. The company boasts not only the requisite equipment, baths and machines on site, but also has specialised personnel with years of experience and a passion for detail who make everything possible. In 2015, the Algra Group took over the company in order to exploit the mutual synergies. Since then, it has been changed and streamlined significantly, but has also invested in new, modern production machinery. Today, gravuretec is a key pillar of the Algra Group, specialising in producing the most beautiful and exquisite surfaces on aluminium components.

'By 1989, Gravure SA had managed to secure itself a significant market share in its field – within Switzerland.'

PRODUCT HISTORY OF THE ALGRA GROUP

gravuretec

precision works

ALGRA

industrial technology

1929 Founded in Erlach



1959 Founded in Dietwil



Industrial etching (no longer exists)



Signs and fronts



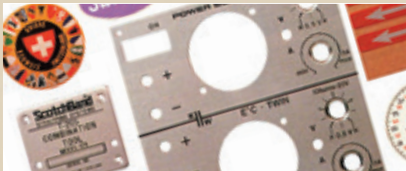
1941 Introduction of signs and fronts



1980 First membrane keyboards



Signs and fronts



1986 Launch of DYNAPIC®



1990 Introduction of plastic input fronts



1998 Launch of DYNASIM®



2009 Start of high-end production



2010 Introduction of DYNAPIC® WIRELESS



High-end aluminium casings



2018 Launch of DYNAFORCE



connect tec

worldwide technologies

1964 Relocation to Merenschwand



2015 Founded in Merenschwand



2015 Takeover of stb ceramics



Piezo components



Membrane keyboards



2017 Launch of PCAP front



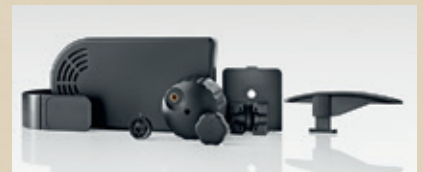
2018 Launch of DYNASENSE



Followed by integration of the trading activities of gravuretec and connect tec



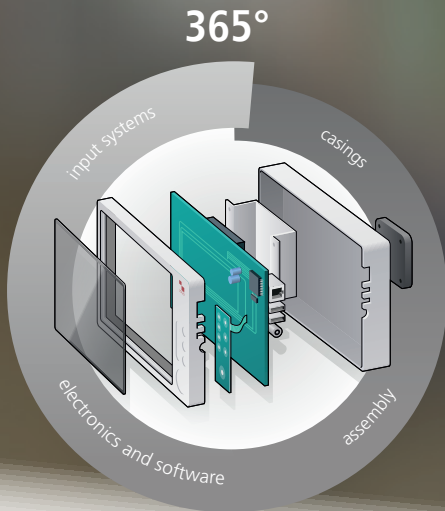
Plastic and injection-moulded parts



Die-cast aluminium parts



CURRENT HIGHLIGHTS



Today, we supply equipment manufacturers with customised input systems, casings, fronts and industrial signs. connect tec completes the product range with items made by manufacturers all over the world. Trimada integrates electronics and software into products.

The DYNASENSE and DYNAFORCE products are recent additions to our range. They combine decades of experience with piezoresistive-based modern technology.

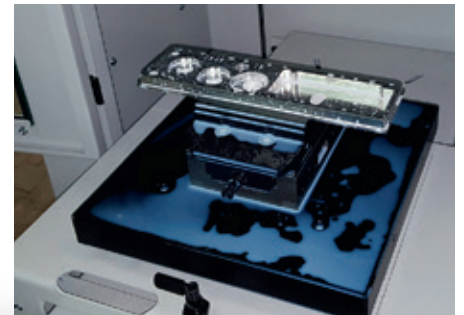
'Our production operations are compliant with lean production standards.'

Modern production

Modern machinery and equipment are essential for manufacturing impeccable quality products at a fair market price. Our production operations are also compliant with lean production standards.

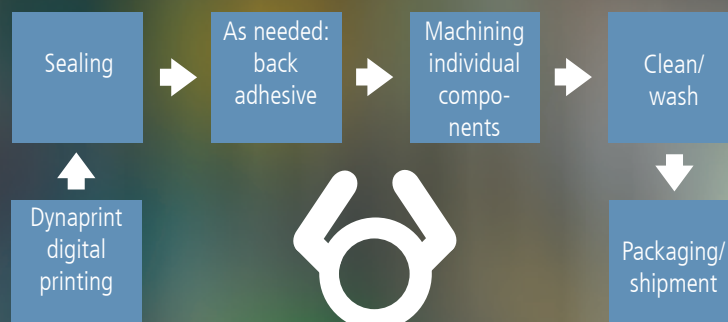
Hermle machining centre

The new Hermle 5-axis machining centre is approximately 40% faster than conventional machining centres. The internally cooled tools, the high machining speeds and the powerful cooling system make the difference.



U-shaped sign production

With the new U-shaped sign production, we can significantly reduce the production time for digitally printed signs and fronts.



Processing time 1 day
Delivery within 5 working days

DYNAFORCE – the ideal touch operation for metal fronts

We are already accustomed to using touch to trigger functions. The Algra Group's DYNAFORCE input technology, however, makes it possible to apply touch functionality to metal, wood or exotic materials such as ceramic.

A gentle touch of the keys creates a slight deformation in the material layer, which is used by a sensor network made up of strain gauges together with intelligent software to determine the touch position and activate the key.



'Metal touch with DYNAFORCE input technology is incredibly sensitive, yet unsusceptible to interference.'

DYNASENSE and PCAP input systems

Both these technologies come from connect tec and fit perfectly into the diverse product range of the Algra Group.

DYNASENSE is a resistive technology for plastic fronts with a thickness of up to 0.75 mm. It enables the development of extremely robust, safe and temperature-resistant input systems. We are more than familiar with PCAP from our smartphones. If you want this same ease of use for your customised input system, then you are in the right place at connect tec.

'Decades of experience in input systems combined with technologies from all around the world – that's connect tec.'



DYNASENSE resistive keyboards



PCAP touchscreens

Signs and fronts

Signs and fronts are the traditional business of Algra and gravuretec. They need to be colourful and supplied as quickly as possible. In our U-shaped sign production unit, we carry out digitised production processes directly one after another. Film is also digitally printed and separated by laser.

However, there are still stamping and cropping machines at Algra and gravuretec, but these are also often digitised. We have not dispensed with screen and offset printing; they continue to be used proficiently in both Merenschwand and Erlach. Fronts requiring a complex series of processing steps are welcome: machining, bending, glass bead blasting, grinding, anodising, dyeing and printing – all available from a single source at gravuretec. That's how the most beautiful aluminium fronts are made!



'Our elegant aluminium casings for the high-end and MEMS market enjoy an outstanding reputation.'

High-end aluminium casings in outstanding precision

An elegant casing with high-quality materials imparts a special touch to your device. We are also happy to realise very exclusive needs. Be it for the high-end and MEMS market or for industry – Algra Group's skills are evident for all to see.

The production of aluminium parts, for instance, is all under one roof and comprises a range of processes developed with the utmost of care.



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EINGABESYSTEME
CLAVIER / KEYBOARDS
INPUT SYSTEMS
PIEZOTECHNOLOGY
FRONTS&PLATES
SIGN/INPUT/CASE
FRONTEN/PANNEAUX
TASTATUREN
CUSTOMIZED SOLUTION
SCHILDER

ALGRA GROUP

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