

2014

company

P DAHL

CE



P DAHL

S4 Lift Control System



P DAHL

Specialist in Lift Electronics

# 20 years and still growing

The history of P DAHL has been a long and prosperous journey. 20 years ago the company was started in a basement in the west of Gothenburg and it has grown ever since, each year better than the year before. Lift electronics has been the speciality ever since the start and where we are today is a proof that we are really good at it.

2008 marked a very special year for P DAHL Electronics. It was the year we moved into brand new facilities, built and designed for our company.

The move to our new facilities was a milestone for our company and marked a new era. The move took away the restraints we've had the last couple of months we're we simply didn't have enough space to grow.

The workshop, offices and even corridors were filled with equipment, boxes, deliveries and such, and there were simply no space to put anything else. The 600 m<sup>2</sup> at Krokslätt in Mölndal was filled to the brim.

So when we finally moved to the 2200 m<sup>2</sup> facility in Åby, Mölndal, it was a huge relief and we could finally move around our workspace without bumping into each other.

The space allowed us to better plan our production and allowed

us to expand the company in a way that wasn't possible before.

To mark the new era we updated all our printed information as well as website, clothing and logotype.

2008 was the year P DAHL grew into a medium sized company and with more than 30 employees the company had grown with over 50% in two years - so we really needed the extra space.

## Back When it All Started

In 1990 the company was started in Västra Frölunda, in western Gothenburg. The company worked with lift control units from the start. The first customers were local lift companies and the collaboration prospered.

By 1995, P DAHL had become synonymous with durable and reliable products and production was too much for one man to handle and the first co-worker was hired. Since then the growth

knew no ends.

In 1999 the S3 Control Unit was developed and P DAHL was gaining reputation in the rest of Sweden.

The S3 offered something new and filled a void in the Swedish lift industry and soon dominated the lift control unit market. The S3 was easy to install and to configure, at the same time as it offered customization of the lift system on a level that no other domestic system could.

Even though lift control units early on was the main bulk of the production, we soon found the need for other related products as well. Push buttons, floor indicators, speech processors and other lift devices soon were developed at the same time, as there was a need for the complete assembled package.

By 2001 the company was housed in a small office in Västra Frölunda and when we moved to



Krokslätt in 2002 the need for space was critical. The 600 m<sup>2</sup> big facility was soon filled and production became more and more complicated, and demanded more and more space.

In 2004 P DAHL Elektronik & Data AS was formed with an office in Kirkenær, Norway.

Soon our facility at Krokslätt was filled and we knew that we had to move to meet the demands of our customers and by 2007 we were 22 employees crowding together with production, stocks, development and administration.

The solution was a completely new facility and in May 2007 the ground breaking ceremony took place in Western Mölndal and a little more than a year later we moved into a 2200 m<sup>2</sup> modern facility, planned and built specifically for our needs.

### Today

Today P DAHL have journeyed a long way since the first years in Västra Frölunda. The company has grown every year since we started and today you can find our products in 27 countries over the world.

Our main focus today is also to develop new products and solutions and as a result of that we've expanded our R&D team the last couple of year. We constantly improve our existing products and introduce new features to improve usability, installation, durability etc.

Besides the knowledge and experience of lift systems there also is a great knowledge in electric installations, electronics (like microprocessor constructions, programming in most large programming languages, soldering, surface mounting and so on).

Our modern machine park is fitted with equipment for surface mounting, reflow, wave soldering and microscopes to give you high quality, quick deliveries, at a low price, since we do all the work within the company. This also means that we can give our customers a chance to participate in the development of the products and its functions.

Peter Dahl, Managing Director

# History and Milestones

With our control unit S3, we grew quickly and soon dominated the Swedish market for Lift Control Units. The quick growth forced us early on to look abroad for new customers and after a few years we've established a good name on the foreign market with our products sold in 27 countries. The S4 will take us even further...

1990

The company was formed in Västra Frölunda, Gothenburg.

1991

The control unit S2 is developed and start shipping.

1997

First employee was hired to support the increasing load.

1999

The S3 Control Unit was developed.

2001

DF03, the first swedish programmable digital floor indicator is developed.

2002

The company moves to the facilities in Krokslätt.

2002/2003

Annual turnover exceeds 10 million SEK.

2004

A satellite branch was formed in Kirkenær, Norway.

2006

S3 is installed in a five-group lift system in Shanghai, China. Remains our biggest system up to date.

2007

22 people are employed and working at our facility in Krokslätt.

2008

Our new facilities in Åby Mölndal is built and we move in at mid-summer.

2009

Annual turnover reached 65 million SEK

2010

P Dahl open a satellite branch in Melbourne, Australia

2011

P DAHL celebrates 20 years

2013

The S4 Control Unit is released



# P Dahl Worldwide



# From Drawing Board to Product

One of the biggest strengths we have as a company is that we handle the entire product cycle, from the drawing board to finished product. Over the years we've developed a large number of electronic products and are constantly evolving - constantly taking new steps to perfect and expand our product line.

Control Units have long since been our specialty but we've often felt limited by the third party devices connected to the control unit, which is why we started to produce our own devices.

Today the product line is almost complete with push buttons, floor indicators, overspeed governors, panels, speech processors and so on. And we constantly develop new products and think of new solutions.

Development has always been the strength of the company and with well-educated staff and state of the art modern machinery; we have a production to match our development.

## S4 - Next step in lift evolution

Our biggest success is without question the S3 control unit and this year we are proud to present its successor - the S4 lift computer. Built on the S3 architecture we've taken the control unit further with a large touch display

and lots of new features. Among others - Ethernet and USB connection, MicroSD storage etc.

We've also developed a number of control units that function on simpler lift systems, where the demands are lower.

At P DAHL electronics we try to find our own solutions to make better products at a better price, and we've learnt that total control makes the best products.

To mainly work with your own products also gives the option to better be able to customize solutions for customers with special needs. It let us go beyond the blueprints of the product and offer solutions that might not be available otherwise.

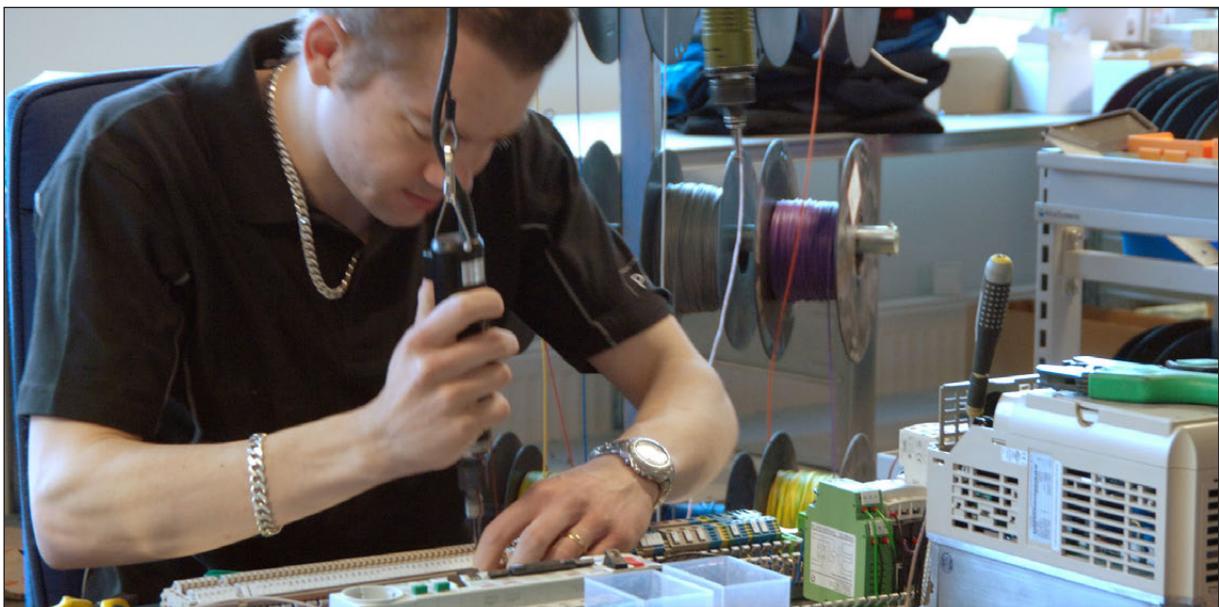
## Newest Additions

The latest products we developed are the S4-DF12, a brand new digital floor indicator intended to be installed in a surface mounted box. We've also developed a new

series of push buttons, S4-PB06 - a slimmer button, also intended for surface mounted boxes. The S4-PB06 also has uses a separate connect system, using gateways to connect to the CAN Bus. This allows for longer wiring and less interference.

S4-PB06 allows up to seven slave buttons to be connected to a single master. A solution that offer fewer connections and makes installation simpler.

Our products are assembled in a modern environment with modern workstations. Each product is thoroughly tested and our newest products are fitted with protected covers to protect that electronics which also makes the installation easier.



# From Order to Delivery

Our sales department controls the entire process from order to delivery. Customers mainly use our electronic forms to fill in their orders, but in the near future orders will be made in our online order system which allows you to customize your system and suggest the best solution.

With a solid knowledge of lift systems our sales department are ready to answer any question that might arise. They can suggest the most efficient solution or bring valuable suggestions if the customer has special needs.

The sales department is at heart of things and controls the order from the acceptance of an offer to the final delivery.

2009 P Dahl implemented a new business system that further improved the entire cycle from order to final delivery. This gave us better control of the progress of orders and greatly improved the administration of the entire process.

## Electronic order forms

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Our online forms post orders directly to our sales department and are stored for future reference.

Orders are then processed and as soon as they are approved

an order confirmation is sent to the customer together with an estimated delivery date.

Delivery date depends on a lot of factors. Some of our products we have in stock, while others are produced on demand. If the order is simple spare parts or accessories, the time from order to delivery is just a couple of days, while complete electrical packages with control units take a couple of weeks, depending on current load and time of year.

When working with lift panels we first create a blueprint that we send to the customer for approval before we start to process the order.

As soon as the order is complete we start shipping with the customer's preferred choice of delivery.

All products are tested prior to delivery and electrical packages are preconfigured to the installed equipment, and when fully installed the control unit only require

minimal configuration before the lift is ready to use.

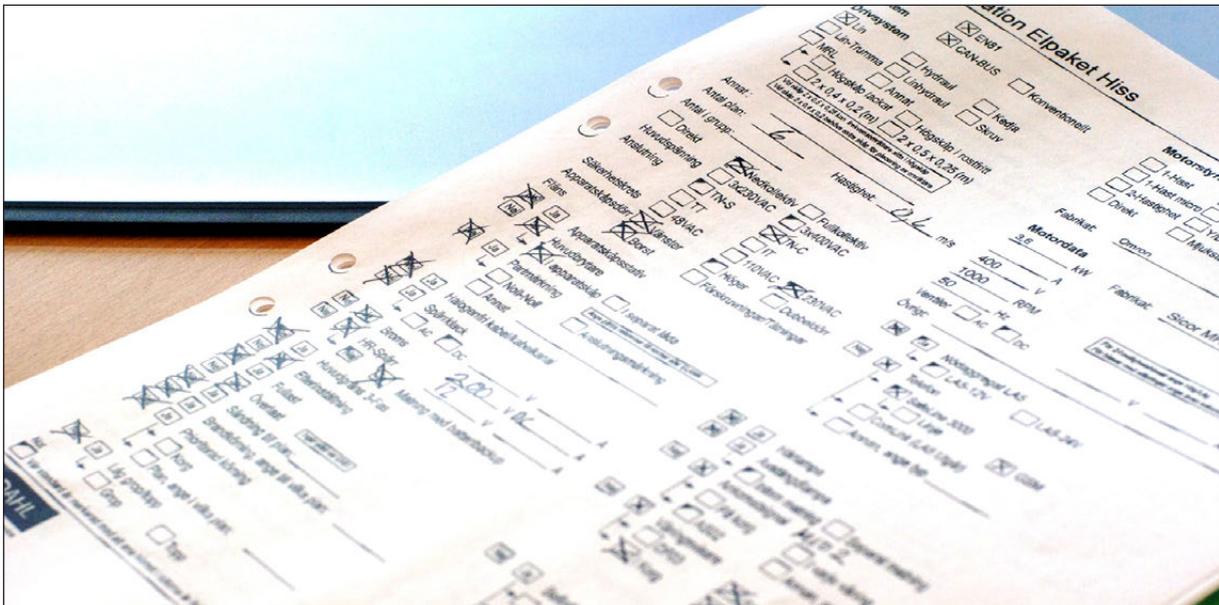
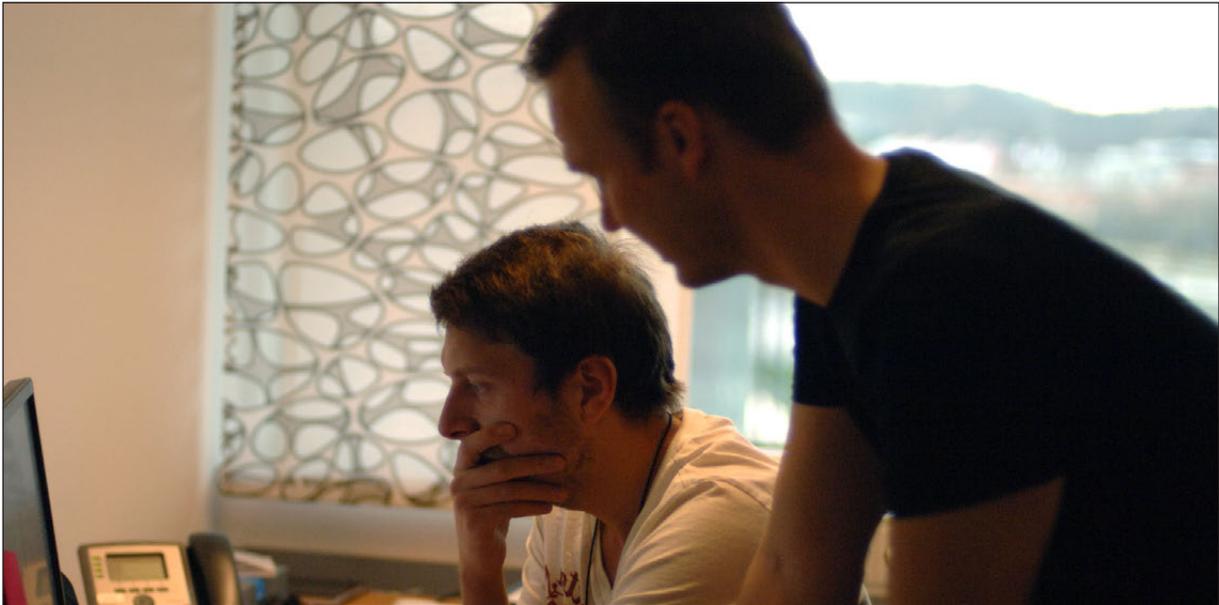
Our salesmen are available on phone and can answer most questions directly. For more complex answers our support department can take over.

If a customer has needs beyond the capability of any solution we offer, there might be a possibility to find a customized solution. If that is the case, our development department could step in and offer their opinion to find a viable solution.

## Visions of the future

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We recently launched a new web site that enables customers to view past and present orders, download schedules, documentation etc. In the future we hope to expand the web site to also allow customers to place orders directly into our system.



# Electronics - What We Do

Lift electronics is our specialty and we have a number of products to fill most of your needs. At the heart of our electronics product line is our control unit - S4, a very versatile system designed for lift systems with up to 64 floors, group control etc.

When S3 was launched in 1999 it revolutionized the lift industry in Sweden. The system offered customization far superior to any available domestic competitor. Today almost 15 years later, the S4 will take its place.

The S4 is based on the hardware architecture of the S3 and at its core is a computer capable of handling thousands of parameters and tasks. Controlling the computer is easily done with the help of its large touch screen.

With Ethernet connection, USB ports and MicroSD card slot, it is very easy to configure and remote control the computer.

Controlling devices is easy and products developed by P DAHL is automatically identified when connected to the CAN bus.

## Floor Indicators

S4-MIO is our floor indicator product family. S4-MIO is available in two main versions, S4-MIO2 - a smaller indicator with a 16x16

dot display or S4-MIO3 with a 32x16 dot display.

S4-MIO is a CAN-Bus connected device that makes it very easy to connect to the S4-unit. The floor indicator is detected by the control unit and can be configured directly upon connection.

We also released the S4-DF12 that have the same features as S4-MIO3, but it is slimmer and fits into a surface mounted box only 23 mm thick.

The S4-DF12 can be ordered with a built in speech processor.

## Push Buttons

S4-PB06 is our latest push button controller. The S4-PB06 is also designed to be fitted inside a surface mounted box only 23 mm thick.

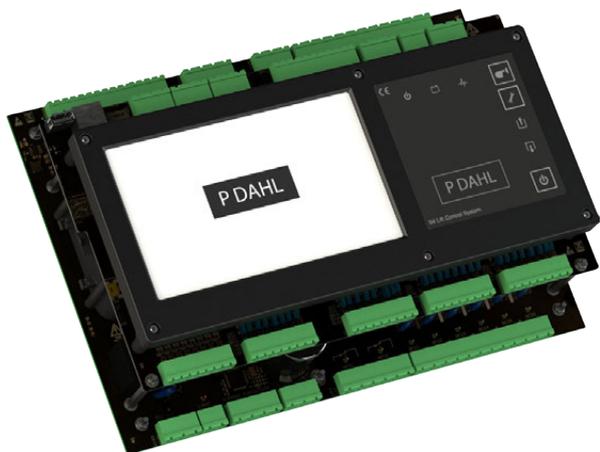
The S4-PB06 has two types of lighting. One center light and two halo lights. The lights can be of different color to indicate different functions.

We also offer S4-PB05 for more conventional fitting. Both S4-PB05 and S4-PB05 uses master-slave technology, where one master unit can control up to 7 slave units. Therefore keeping down the amount of wiring needed.

## Speech Processors

SP02 is our latest speech processor. SP02 uses an MP3-player to play sounds or music and allows music to be compressed the same way MP3 does.

SP02 is delivered complete with the most common phrases and floor announcement of floor 1 to 32. We also have a sound bank with most commonly used lift phrases in a number of languages, and can record additional phrases or languages if sought after.



## Control Units

We have several control units today depending on the lift system. S4 is the most advanced unit we've created.

## Speech Processors

P02 is a speech processor with MicroSD memory card. The amount of sound and music it can hold is only limited by the card used.

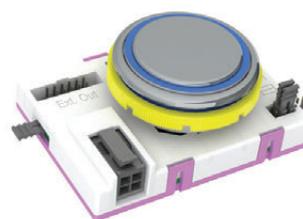


## Floor Indicators

We offer several digital floor indicators in different sizes and colors with optional built-in arrival signal.

## Push Buttons

S4-PB06 is a push button using gateways to connect to the CAN-Bus. It has multi-light possibility. One master unit can support up to 7 slave units.



## CAN Units

The CAN Bus offer longer cables and the possibility to connect a large number of devices to each Bus. We have several units to further improve the CAN Bus usage.

# Electrical Packages - Putting it all together

The development of P DAHL has been the development of our electrical packages. One of the problems that prompted P DAHL to produce control cards was the use of relays. The number of relays demanded by different rules and regulations we getting out of hand and the solution was to control the system with control cards - and a business success was born.

During the 1990's rules and regulations in the lift industry pushed for development. Since relays were mostly used to control the lift, the number of relays needed kept increasing as new rules were introduced. Installation soon became complex and unnecessarily time-consuming.

Peter Dahl soon saw the need for better and easier solutions and started to create control cards to control functions previously handled by relays.

His solution proved successful and greatly improved the control of the lift and improved the installation process. Customers soon saw the benefit of using his system and a success story was born.

## Great Development

When P DAHL started to offer electrical packages the existing solutions was quite basic and technology was dated. Rules and regulations have since forced progress and technology, and P DAHL has grown with the progression and today our electrical packages is far from the one we delivered 10 years ago.

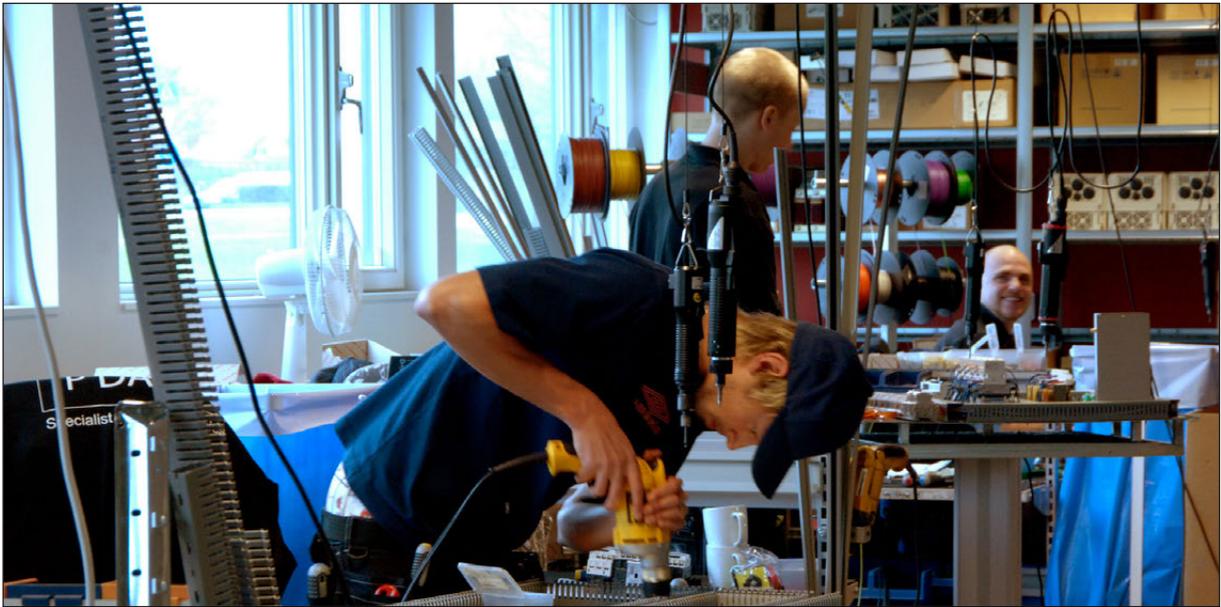
Development has always been of utmost importance at P DAHL and we always found it important to be a part of the progress rather than trying to keep up. Many of our products we've developed since there have been no good alternatives available.

## Fully equipped packages

Today we build fully equipped electrical cabinets fitted with control system, connections, frequency converter etc. We offer Car top Control cabinets, over-speed governor, shaft installation harness, overload sensors, shaft lightning, emergency systems and fully equipped panels with push buttons, floor indicators, speech processors etc.

We offer the total package and deliver the package preconfigured complete with documentation and all needed accessories.

The customer installs the system and once installed, minimal configuration is required before the lift is running.



# Constantly growing

With a sound financial foundation P DAHL have had no problems riding the financial storm passing through Europe. During 2010 we opened a sales office in Melbourne Australia to better be able to expand in that region. 2014 promises to be a great year with the arrival of the S4 lift computer.

Stability has always been important at P Dahl and it has always been one of our core values. We've always been careful about bringing in external investors. This struggle has been part of the company's success and have led to that the company regained its autonomy over the years.

As a proof of the company's good economy we were awarded highest worthiness by AAA (Dun & Bradstreet) in 2002 and have maintained that level ever since.

Our customers are located all over the world and to better be able to service our customers we have many partners and distributors all over the world.

Australia has always been a good market for us and it has led to the need for a stronger presence in the area. Therefore we opened a branch office in Melbourne in 2010.

Our Melbourne office will fill a much needed gap in our organization and together with a huge increase in orders the last couple of months the future looks bright.

## Organization

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Over the years we've grown quite a lot, but when we moved to new facilities in 2008 we could focus more on optimizing and improving routines, administration and production. This has

led to a more efficient organization and even though turnover has increased there has been no need to increase the production job force.

We've instead selected to increase our R&D department and today we have 5 engineers working on improving existing products or developing new ones.

The fruit of our R&D department will be better, smarter and more durable solutions and the promise of a great 2014.



# Expanding business

How to expand your business is always a difficult question. A few years ago that was the problem we faced. We already excelled when it came to lift electronics and for many years our electrical package division had grown exponentially.

The next step was inevitably to start supplying the full package...

For many years we'd supplied almost everything possible when it comes to lifts. Motors, doors, electronics, guide rails, ropes etc. Our support team often got questions about things we didn't even supply and happily helped out.

After some cooperation with another lift supplier we decided that the time was ripe to take the step and starting to design our own lifts.

As with all new projects the step hasn't been easy and many times we learnt things the hard way, but the lessons were good and today we can design and deliver world class lift systems.

## It all started with CAD

Early on our engineers worked with CAD systems to design covers to protect the electronics and as the knowledge grew and the tools improved the thought of designing the mechanics using CAD awoken.

Today CAD has powerful tools when it comes to calculating the strength of details and it allowed us to draw the entire lift in the computer and to see which details needed to be strengthened to cope with the stress that was put upon it.

Using these tools we could easily design details that was optimized for the lift and the shaft, allowing for lighter lifts without compromising the security.

Lighter lifts meant more cost and power efficient lifts. We could even calculate if the different parts of the lift would fit in the shaft or through the opening, making installation as easy as possible.

Since we've delivered all the other parts of the lift, we could make sure that all parts of the lift worked together as good as possible. Everything from car, to motor to the fully configured and pre-installed electronics.

Talk to our sales department for more information about how we can help you get a great lift system.



# Ready to Fulfill Your Needs

A crew of more than 30 people makes sure that we retain quality in every step from order to delivery. Each member a valuable asset to the crew to make sure the customer is satisfied.



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