



DATA CENTERS: YOUR PARTNER FROM DESIGN TO CONSTRUCTION

Local expertise on a global scale



INTRODUCING HILTI



We passionately create enthusiastic customers and build a better future.

At Hilti we design and manufacture leading-edge technology, software and services, which power the professional construction industry.

We're global, based in over 120 countries with more than 28,000 employees.

Founded in 1941 in Schaan, Liechtenstein, Hilti is still wholly family owned, with all shares held by the Martin Hilti Family Trust. Hilti generated annual sales of CHF 5.1 billion (US\$ 5.2 billion) in 2017.

6% of our sales revenue is invested into R&D and we ranked among the top 100 applicants for European patents in 2017. A growing number of our 2,000 active patent families relate to products we supply to data centers.

A truly global company, we have links with businesses and universities across the world. Our data center clients include many of the world's largest brands, all of which have come to rely on Hilti's expert blend of quality, innovation and customer service.

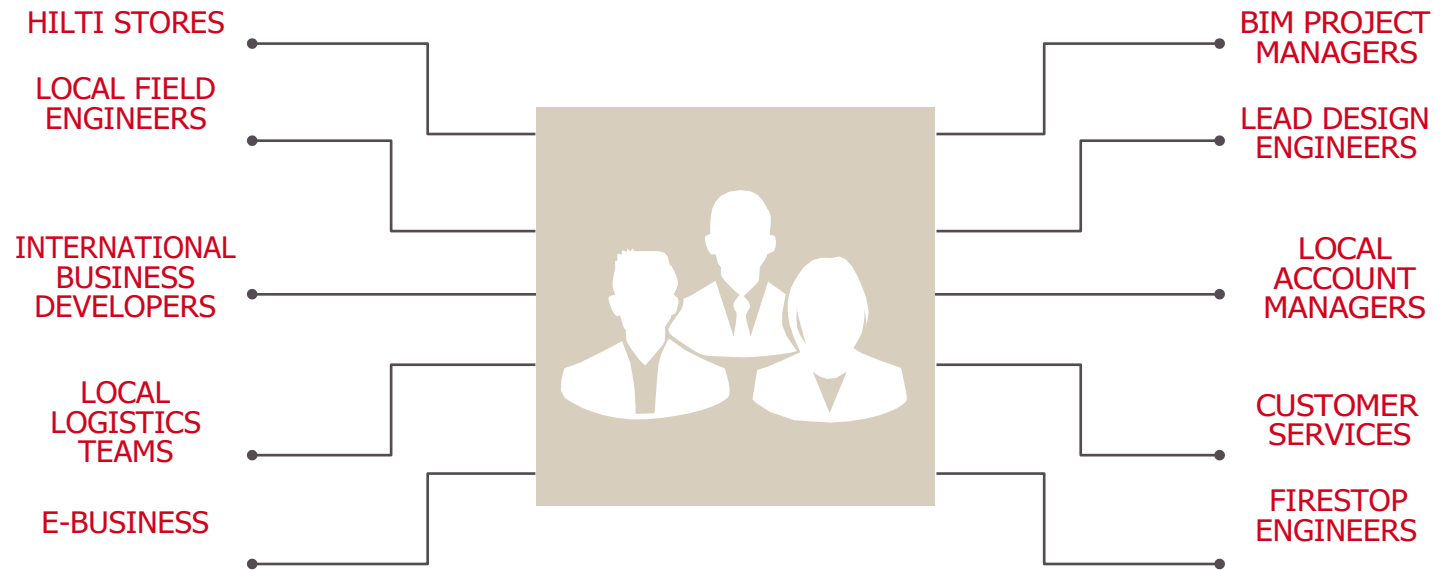
YOUR DEDICATED DATA CENTER TEAM

Bringing you local knowledge on a global scale

With a dedicated data center team and colleagues based around the world, Hilti's global reach allows us to help you design, build and maintain data centers on any continent – bringing you efficiencies, speeding up your projects and delivering major savings.

Our dedicated data center teams bring together all the people you need, in the region you need them and speaking your language, from Engineers, BIM experts and International Business Developers to Account Managers and Customer Services. We also have a network of local Hilti Stores for immediate product pick-up and even Click & Collect. In addition, digital resources like the Hilti Website are available 24/7.

Team members on the ground can offer you excellent knowledge and experience of managing projects just like yours. No matter if you are building from Singapore to San Francisco or from Stockholm to Sydney, we bring you local knowledge on a global scale.



TOTAL OFFERING FOR DATA CENTERS

From data center design to fit-out, we have the solutions you need and can partner with you every step of the way.

As you read on, you'll learn how we bring together innovative hardware to build your data centers with software that helps you design them, as well as a range of services that cover everything from BIM design, engineering support and training on the jobsite. Few other partners can offer you such a complete, end-to-end solution, on a global scale.



Our total data center solution is built on the three pillars of **hardware**, **software** and **services**.



HARDWARE

- **Modular Support Systems:** to design and install your infrastructure more quickly and safely
- **Firestop solutions:** including modular and pre-formed products which can be easily re-deployed when you need cable modifications ([click for page](#))
- **Fastening on steel:** innovative solutions that can save you significant time and money compared to traditional methods such as welding, clamping or through-bolting
- **Fastening on concrete:** chemical and mechanical fixings designed to help meet your project requirements
- **Power tools:** designed to outperform and outlast, delivering the speed and flexibility you need. Ideal for data centers, 95% of Hilti tools have a virtually dust-free solution
- **Measuring systems:** for more accurate layout including BIM-to-Field



SOFTWARE

- **BIM / CAD Library:** an extensive library of Hilti products as 3D and 2D BIM/CAD objects – all able to integrate directly into leading construction design software, such as AutoCAD®, Revit® and Tekla Structures
- **Documentation Manager:** document penetrations using your smartphone, generate quick, professional compliance reports and help show your firestops meet the highest standards and relevant regulations ([click for page](#))
- **PROFIS Engineering suite:** provides cutting-edge calculations based on industry-leading standards, such as European Technical Approvals (ETA), as well as the latest Hilti design methods
- **Mobile Apps:** at your fingertips 24/7 is our suite of product selector apps, designed for your mobile device



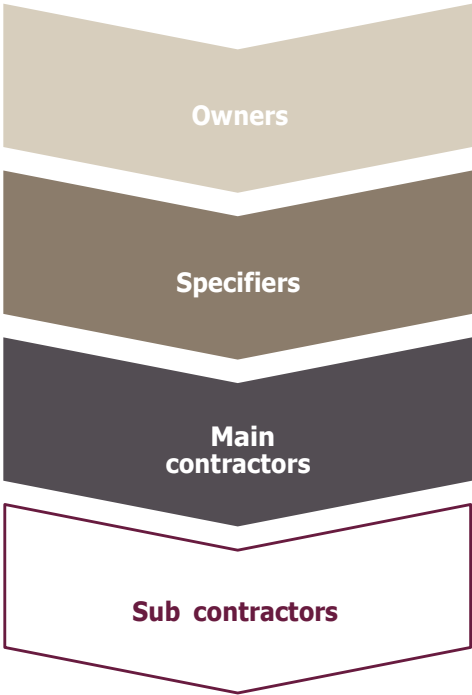
SERVICES

- **BIM Services:** experienced engineers that can be with you on-site and in the office to help with Framework, Design, Modeling and provide Drawings and Bill of Materials ([click for page](#))
- **Engineering judgements:** custom drawings, which we create per your requirements, designed for applications without standards ([click for page](#))
- **Cutting and Kitting:** faster and safer installation of modular solutions that arrive on-site already prepared for fitting ([click for page](#))
- **Logistics:** including (but not limited to) scheduled, bulk or customized deliveries to site, storage or wherever you need it ([click for page](#))
- **Training:** use our expertise on engineering topics, software, on-site support, and more

UNDERSTANDING YOUR CHALLENGES

Helping you achieve end-to-end efficiencies.

Our experience of helping customers design, build and fit their data centers has given us deep insight into the challenges you face – and inspired us to find ways of helping solve them. Below are just some of the ways we can help you.



Energy efficiency

Because a data center can consume around the same amount of energy as some cities, every marginal efficiency gain has the potential to deliver major cost savings, straight from the bottom line.

Our Firestop sleeve helps you maintain air flow control and minimize pressure leakages. While the flexibility of our Modular Support Systems helps you to easily modify your ceiling grid layout and hot-cold aisle containment, create corridors, add integrated floor systems and modify the internal layout. In this way, you easily adapt to your future needs and those of your customers.

Uptime and day 2 requirements

It's critical that your data centers are always up and running, so we have designed our systems to better withstand everything from fire to seismic activity.

We also know that rapid technological advances mean you need the flexibility to adapt your data center layout to keep pace with demand. Therefore, our Modular Support Systems can give you the flexibility to easily make changes directly on site without having to strip down and re-build parts of the data center.

These systems cover applications from light electrical to heavy mechanical requirements, with no welding required.

Standardization

When you need to build or renovate data centers in different countries, it can be difficult to comply with local building regulations and design standards.

As a global firestop product manufacturer, Hilti has tested its products to recognised international firestopping standards and can help you comply with local regulations.

Our global presence and knowledge helps you maintain the same standard globally while complying with local requirements anywhere in the world – meaning you get up and running faster.

Speed and Productivity

Our engineering design support and BIM Services help contractors speed up the planning and design phase of your data center. Our products are also designed to be installed quickly and comfortably.

Logistics Services such as cutting and kitting also speed up on-site installation, reduce labor costs and help ensure quality and reliability of the system.

Global support

In an ideal world, you might want to build a carbon copy of your existing data centers all around the globe, speeding up time to market and helping you stay ahead of your competition.

As a global organization, we can provide the products you know best and deliver them to over 120 countries, significantly speeding up your projects, and cutting costs. Because we also have team members based all over the world, you can rely on face-to-face support from people who are not only Hilti experts but local experts.

SOLUTIONS FOR DATA CENTER APPLICATIONS

Hilti can help you from the design stage right through execution and maintenance.

From our Modular Support Systems used to build hot and cold aisles, overhead grids and integrated floor systems, through to cladding, firestopping and fastening on concrete or steel, we have the quality materials you need – and can get them to you fast, in over 120 countries.

It's a holistic approach to your project, offered by a global partner who can support you almost anywhere in the world you operate or want to build new data centers.



CIVIL

MECHANICAL, ELECTRICAL AND PLUMBING (MEP)



Shell



Hot / Cold aisle containment



Overhead grids



Mechanical & Electrical, HVAC



Air Handling Units



Integrated Floor Systems



Equipment supports and platforms



High voltage cabling supports

BUILDING ENVELOPE

FIRESTOPPING

FASTENING ON STEEL

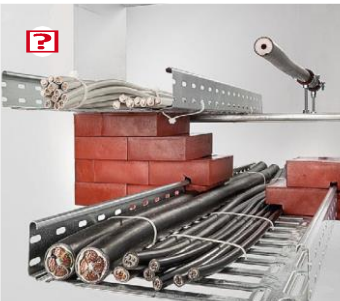
FASTENING ON CONCRETE



Cladding



Data cabling



Electrical cabling



Piping and ventilation



Fixing



Decking



Cast-in anchors

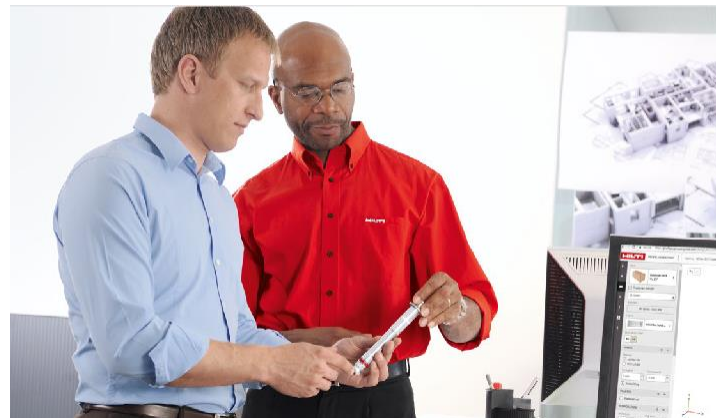


Post installed anchors

HILTI APPLICATION WORKFLOW

Partnering with you every step of the way.

Our dedicated data center team can work with you from your initial concept designs and BIM modelling, through the procurement process and during construction. This end-to-end approach helps you to build data centers faster and get them up-and-running quicker. This means you have to wait less time before they are generating profit and improving your service level to your customers.



ENGINEERING

Our teams of highly trained local engineers can offer you support either in your office or at your jobsite. They can help you create detailed design, including load calculations, as well as generate firestop specifications and BIM modeling. In addition, they can perform jobsite tests using regularly calibrated test equipment, providing you with reports that contain relevant data and resistance evaluation that can be incorporated into PROFIS, our anchor calculation software.



PROCUREMENT

During the procurement stage of your data center build, retrofit or maintenance operations, we'll work closely with you to create a framework agreement that details roles and responsibilities as well as terms & conditions. This one-to-one service ensures that your needs are properly defined and met.

In addition, we can create an automatic material take-off and arrange any logistics services you need.



CONSTRUCTION

To increase speed and productivity on-site, we can cut your Modular Support Systems in one of our fabrication centers, consolidate components into kits, so you can minimize your material and labor costs.

Our logistics service also ensures that items reach you exactly when and where you need them.

BIM SERVICES

BIM (Building Information Modelling) is transforming the way construction projects are designed, planned and executed. It provides a common digital environment for architects, engineers and construction professionals to collaborate and also allows for a smoother transfer of the design in the office to construction on the jobsite.

Hilti have dedicated BIM teams – including BIM Project Manager, Lead Engineers and BIM Modelers – working all around the world. The Hilti BIM services they provide can improve safety, save on material / installation costs and speed up your projects by enabling pre-fabrication services.

Everything you need for a smoother transfer from design in the office to construction on the jobsite.



Framework

Our experienced Hilti BIM Project Managers work with you to set a clear starting point, slicing your data center project into conceptual – yet optimized – MEP solutions. This Framework Service proceeds and provides a baseline for further BIM services.

Deliverables:

- Project sliced into individual applications
- Conceptual design of MEP Supports
- Hilti Service Offer for the Design Services

Description of framework service



Design

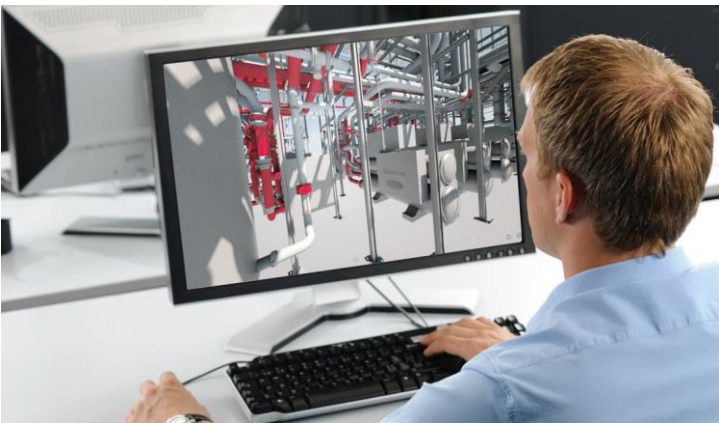
Evolve the concepts into designed solutions (Design Core), and tackle any complex or non-typical areas, such as Technical Rooms (Design Specifics).

Both the Design Core and Design Specifics are performed by an experienced and dedicated Hilti Lead Engineer and with the coordination of a Hilti BIM Project Manager.

Deliverables:

- Designed MEP Supports (“Typicals”)
- Individual Bill of Materials and engineering reports
- Individual clash and exception reports

Description of design core service
Description of design specifics service



BIM Modelling

Having the supports designed, means our team of BIM Modelers can add the designed supports directly into your digital twin.

This also means you can benefit from pre-fabrication and logistics services, use BIM-2-Field to position the supports with a Total Station and facilitate future maintenance and modification.

Deliverables:

- MEP Supports added to BIM Model
- Report of exceptions (issues)
- BIM-2-Field data

Description of BIM modelling service



Drawing and Bill of Materials

Once the BIM design and modeling is complete, Hilti can draft all shop and overview drawings. Hilti will propose a drawing template, but can adhere to your customized drafting standards, if required.

This means you can effectively manage logistics and procurement of quantity take-off, plus human error can be reduced in installation.

Deliverables:

- Shop drawings
- Overview drawings
- Offer for cutting and kitting services

Description of drawing and bill of materials service

CONSTRUCTION SERVICES

We want to be more than just a supplier. We want to partner with you at every stage of your data center's lifecycle. That's why we are on hand to help and advice on a widevariety of topics.

Our technical experts, digital resources and certified trainers are on hand wherever and whenever you need them.



Engineering judgements

Because every data center construction project is different, we offer engineering judgements for specific situations. These are custom drawings, which we created per your requirements, designed for applications which aren't approved by international or national guidelines.

These can cover a range of applications such as MEP supports, anchors, post-installed rebar, and firestop. To find out more about our Hilti engineering judgements, simply contact your local Hilti team. We're happy to help on-site, online or on the phone.



Engineering services

Experienced Hilti engineers and technical specialists are available to work hand-in-hand with your team to help develop design solutions for your unique structural or non-structural applications.

We offer a range of consulting, training, and education services, including webinars, jobsite support, design calculations, specifications, submittal documentation and more.



Training and advice

We have a wide variety of training on construction topics such as high-end detection, health & safety, anchor, firestop, and installer training.

Courses have been designed with a balanced mix of theory and hands-on training, and certificates are issued upon completion. They can also be arranged at a time and place suitable for your business.

Hilti also shares knowledge online through a series of webinars covering product, installation and engineering topics. View them live and interactive, or access recordings at your convenience.



Local support

Highly-skilled and trained local engineers can be with you onsite during the construction phase to work with your teams and your subcontractors.

Our local teams can assist with any design, training or support required during execution.

PRE-FABRICATION AND LOGISTICS SERVICES

Once engineering and design is done, the key target shifts to bringing the project to reality with minimal time between the planning stage and the moment servers start pushing data around the globe. This is where Hilti Pre-fabrication and Logistics Services* come into play.



We can pre-cut your Modular Support Systems in one of our Fabrication Centers or consolidate components in a kit which helps minimize your material and labor costs during the construction process.

*Please note, not all Value-Added Services are available in all markets.



Minimize time to operation

Perfect for when time and space are tight – no hassle on the jobsite – just install your Modular Support Systems to save time and increase productivity.

- Improve project planning and work scheduling, to match project timelines or even complete projects ahead of schedule
- Distribute material on the jobsite easier and faster
- Spend less time locating components
- Improve health and safety as no cutting on the jobsite is required (or sometimes allowed)

Save costs and reduce waste

No searching for missing material, no excess components, no time spent cutting on site, no cleaning up afterwards.

- Make transportation easier and cheaper
- Reduce waste as you get the components only in the quantities defined in the bill of material, without any limitation on sales package sizes
- Reduce inventory management and storage space requirements on your jobsite

Quality at highest safety standards

We execute the service in a controlled workshop with ISO 9001 quality management standards. You can also avoid all the safety hassles on your jobsite – what is designed is what gets installed and we can even train your installer to do it right. The perfect foundation to operate your data center.

All you need to do is specify your needs to our Project Management Office for pre-fabrication during the design phase. In addition, our logistics can provide a flexible delivery schedule that meets your demanding requirements.

FIRESTOP SOLUTIONS

Hilti helps you maintain uptime with its pre-formed firestop products which help to reduce the risk of fire spreading and helps limit the costs of reconstruction.



Mechanical firestopping

Our range of firestop products for mechanical applications such as piping includes:

- **CFS-C EL Firestop collar endless:** for wastewater, roof drainage and pneumatic pipes
- **CFS-B Firestop Bandage:** to help create a fire and smoke barrier around non-combustible pipes with combustible insulation

Electrical firestopping

Hilti also offers a range of firestop products for electrical penetrations, which includes:

- **CFS-BL Firestop block:** preformed firestop blocks for sealing cable
- **CFS-D Firestop cable disc:** self-adhesive discs of firestop putty for single cables and bundles in openings up to 25 mm. Installed in 10 seconds: peel, stick, done!
- **CFS-PL Firestop plug:** for temporary or permanent sealing round cables or cable bundles
- **CFS-CC Firestop cable collar:** for renovation of sealed cable penetrations with 100% fill and without removing existing firestop

CFS-T Cable transit systems

These modular solutions create a more resistant seal against gas, smoke and water and are ATEX-approved against blasts.

The system consists of adaptable rubber blocks, called cable modules (various sizes and types available), through which services pass. Any combination can be arranged within a transit frame – the rigid border mounted to the wall or floor. Using a socket wrench, a wedge is expanded to secure the modules in place.

Future changes are as simple as loosening the wedge and adjusting the cable modules as needed. So, the cable modules are also re-usable, which saves time, cuts costs and helps keep your inventory to a minimum.

[Watch the video](#)

Firestop sleeve

This pre-formed sleeve is designed for dynamic cabling environments and is ideal for data centers.

It can be twisted to fit snugly around cables to restrict air and smoke leakage where they penetrate walls or partitions. The sleeves don't release fibers or particulates into your clean rooms – unlike coated boards or batts – contamination that can increase your data center's power demand by up to 2%.

Because the sleeves are so easy to use you don't even need a firestop professional each time you move a cable, saving you money in the long term.

[Watch the video](#)

BIM Firestop Software

Firestop Plug-In integrates into your existing BIM programs, including Autodesk Revit, for an easier way to plan and design your firestop projects.

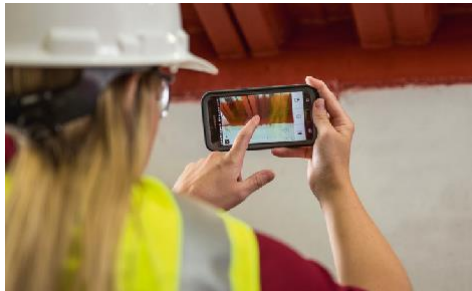
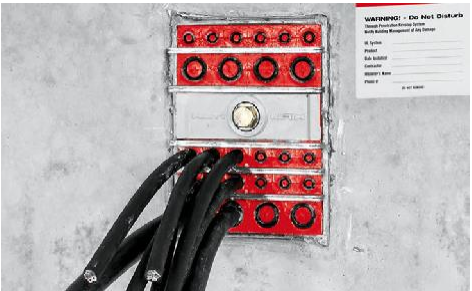
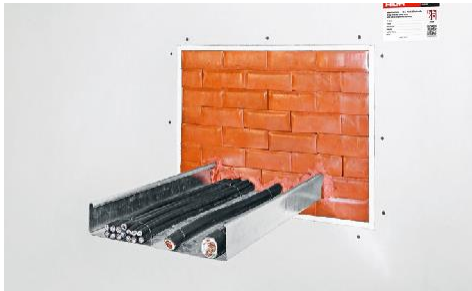
The automated firestop software detects barrier penetrations and helps provide the right Hilti solution for each scenario. It then generates firestop submittals and bills of material based on your design - saving you both time and money.

Documentation Software

Documentation Manager allows you to securely record, track, and report on every installed firestop system – regardless of manufacturer.

With on- and off-line capabilities and free companion mobile app, you can markup digital floorplans, pull inspection reports, and collaborate with team members from anywhere on any device.

[Watch the video](#)



FASTENING ON STEEL AND CONCRETE

Fast, simple and reliable fastening systems – no matter what your base material is.

With over 60 years of experience in fixing systems, Hilti can be your reliable partner for secure fastening solutions. With a range of over 20,000 fasteners you are covered for applications that range from the complex to the everyday.



FASTENING ON STEEL

Data centers are typically built with a lot of steel, meaning that pipes, cable trays and HVAC need to be hung from steel beams. Traditional, go-to methods include welding, bolting or clamping, each with significant drawbacks:

- **Welding:** is a time-consuming process which needs preparation of the steel, a certified welder, and repainting once the area has cooled down
- **Through-bolting:** requires time-consuming drilling, access to both sides of the steel and often small parts such as nuts, washers and bolts that can get dropped or lost
- **Clamping:** can be limited in direction and, if the clamp is exposed to vibration, periodic maintenance may be needed

Hilti has three fast, simple and reliable ways for fastening on steel that overcome these issues and allow you to complete fastenings in less than 2 minutes:

Sharp tip fastening:

- A sharp tip stainless steel fastener is driven by a powder-actuated nailer into the base material
- Fastenings can be completed in a few seconds
- [Watch the video](#)

X-BT blunt tip fastening:

- A blunt-tip stainless steel fastener with a smooth cylindrical or conical shank is driven by a powder-actuated nailer into a pre-drilled hole in the base material
- Fastenings in less than 2 minutes
- [Watch the video](#)

S-BT blunt tip screw fastening

- A blunt-tip stainless steel fastener with a screw type shank is driven by a torque-controlled screw driver into the pre-drilled hole in the base material creating a tapped connection
- Fastenings in less than 2 minutes
- [Watch the video](#)



FASTENING ON CONCRETE

Hilti has a wide range of fast, simple and reliable methods for fastening to concrete – no matter what your load requirements are.

Base plate for the steel structure

Hilti has a wide range of approved solutions for even the most challenging design requirements or geometrical conditions. Static, seismic, shock loading, load values, edge distances or concrete strength won't hold you back.

For example, our HST3 Metal expansion anchor is your go-to solution for safety-relevant fastenings in cracked and uncracked concrete. If you prefer a chemical anchor, our HIT-HY 200 ultimate-performance hybrid mortar allows you to make heavy load fastenings without having to clean the holes.

Medium duty fastening

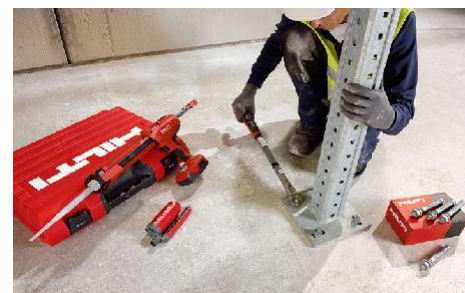
For medium load applications like fastening, MEP supports, securing equipment to floors and walls or installing doors or elevators we also have a diverse portfolio.

For the ultimate in ease-of-install, our HACCast-in anchor channel can be placed around the rebar before the concrete is poured, meaning no labor-intensive drilling or harmful dust. We also have a wide variety of post-installed solutions, like the HUS3 Screw anchor that allows you to support loads equal or greater than stud anchors, and they are adjustable and re-usable too!

Light duty fastening

When it comes to everyday applications, like hangers or drop rods, we can also provide the flexibility, reliability and cost-effectiveness you need.

Standard solutions like HUS Screw anchors or HKD drop-in anchors come in a wide variety of sizes, diameters and head geometries. Economical solutions with the quality you can expect from Hilti.



TOOL SERVICES

Building or modifying a data center can take a lot of tools.

Hilti understands this and offers you a suite of Tool Services that help reduce the total cost of ownership, optimize your tool park and keep downtime to a minimum due to broken, missing or stolen tools.

By removing the hassles associated with tool management, it leaves you free to concentrate on your business.



Hilti Tool Service

Unforeseen or hidden factors like repair costs can lead to serious productivity issues. Our service offering can help you avoid these additional costs and stay within budget.

Even though our tools are built to last, we will pay any repair costs of your tool for up to 2 years from the date of purchase. This includes labor costs, replacement of faulty parts (subject to wear and tear) as well as pick-up and delivery. After the expiration of the initial no-cost period we put a limit on what a repair can cost you. For the lifetime of the tool we guarantee that the repair cost will not exceed a certain price. If the cost of the repair remains below this limit, you only pay the actual cost. Our lifetime warranty covers manufacturing failures for 20 years. We will repair or replace parts that break due to defects in materials or workmanship for a duration of 20 years.



Tool Park Optimization

What tools do you have? Are they the most efficient or reliable tools for the job? Do you really need all of them? What are the direct and hidden costs of your tool ownership? Our dedicated productivity experts answer these questions and more, so you can optimize your tool park to fit the demands of your business and reduce overall costs.

We can work with you to discover the optimal type and number of tools required to meet your operating needs while meeting the highest safety standards. We'll also recommend tools that get the job done faster, need less maintenance and keep downtime to a minimum – all while saving you money on hidden costs like procurement, administration and hiring replacement tools.



Fleet Management

When you are constructing, modifying or maintaining a data center, the last thing you need to worry about is organizing repairs, paying maintenance charges or replacing stolen tools.

Hilti Fleet Management is an all-inclusive service where your tool costs are covered by a fixed monthly fee. This means no money up front* and predictable costs in the future. Let us manage your tools, so you can manage your business.

Budgeting is easy because a fixed monthly fee covers all tool and servicing costs. Repairs are free of charge during the contract, while freight, battery exchange and drop cover are also included. Tools are labelled with your logo and an exchangeservice keeps you equipped with the latest, most compliant tools. A loan service keeps you up and running when tools are being repaired, and you'll also enjoy theft cover for complete peace of mind.

*Subject to credit checks



ON!Track Asset Management

At the touch of a screen or the click of a mouse, the Hilti ON!Track asset management system tells you exactly what equipment you have, where it is and who is using it. When items need maintenance or calibration it alerts you. When it's time to renew training or certification it tells you in advance. With this critical information at your fingertips, it's simple to keep your work on track, profitable and fully compliant.

Rugged barcode and Bluetooth tags on your equipment communicate with cloud-based asset management software that runs on mobile or desktop devices – meaning you can find your assets in an instant. And with our best-in-class services and support, we're always on hand to help you get the best from the system. So, if you want to stay productive and stay compliant as simply as possible, it's time to get ON!Track.



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