



# DATA CENTER SOLUTIONS

Your project partner –  
from design to delivery

May, 2023



# FOREWORD



As demands for data storage have grown, we have helped customers like you design, build and maintain data centers across the world, ensuring you stay ahead of your customers' needs.

## HILTI DATA CENTER SOLUTIONS

We offer our technical expertise in Building Information Modeling (BIM) and engineering competence to help increase productivity throughout the engineering, procurement and operations phases of your project.

In addition, our engineered modular support solutions allow you to design and install your infrastructure faster and more safely. These solutions are designed to bring your data centers online faster and give you the flexibility to cope with future upgrades or retrofits.

We are also a global manufacturer of pre-formed firestopping products, offering you low leakage ratings to assist with air-flow control and firestop. Many of our firestop products are also designed to be easily re-deployed when you need cable modifications or have other 'day 2' requirements.

You can also benefit from a range of value-adding services when constructing your data center, such as cutting, kitting and pre-assembly, logistics to get bulk deliveries on-site, and training for your engineers.

In the following pages, we will show you how our products, software and services can help speed up your data center deployments across the world and how our dedicated team – offering local knowledge on a global scale – work alongside you throughout your project to help minimize your total cost of construction and ownership.

We look forward to partnering with you soon.

[Watch the video](#)



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# INTRODUCING HILTI



## BUILDING A BETTER FUTURE BY MAKING CONSTRUCTION BETTER

We design, manufacture and develop leading-edge technology, software and services that power the professional construction industry. Our data center clients include many of the world's largest brands. They have come to rely on our expert blend of quality, innovation and direct customer service.

With our defined purpose of "Making Construction Better", we are committed to developing products and solutions that drive productivity, sustainability, and safety in the construction industry with our values of integrity, courage, teamwork and commitment at the base of everything we do.

Our 32,000 employees around the world, in more than 120 countries, contribute to making work on construction sites simpler, safer and more sustainable.



## 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, our global reach allows us to help you design, build and maintain data centers on any continent. This helps speed up your projects and deliver major savings.

Our teams bring together all the people you need, in the region you need them – from engineers, BIM Modelers and International Business Developers to Account Managers and customer service staff. Our team members on the ground speak your language and offer you

excellent knowledge and experience of managing projects on a global scale.

We also have a network of local Hilti Stores for immediate product pick-up and Click & Collect. Or visit the Hilti Website.





# A TOTAL SOLUTION FOR DATA CENTERS



From data center design to fit-out, our total solutions package brings together innovative hardware to build your data centers with software that helps you design them, and a range of services that meet your needs – all from a single source.



## HARDWARE

We provide innovative components and solutions that help you design and install your infrastructure more accurately, quickly and cost-efficiently, as well as increase your uptime.

- [Modular support systems](#)
- [Firestop solutions](#)
- Fastening on steel
- Fastening on concrete
- Power tools
- Measuring systems



## SOFTWARE

From modeling and visualization to data analysis and reporting, our programs and tools include:

- Extensive library of 3D and 2D BIM/CAD products
- Documentation Manager for firestop
- PROFIS Engineering suite
- Mobile apps for simpler product selection



## SERVICES

Our experienced professionals provide what you need, when you need it – with on-site and office services customized to meet your requirements flexibly, quickly and more safely.

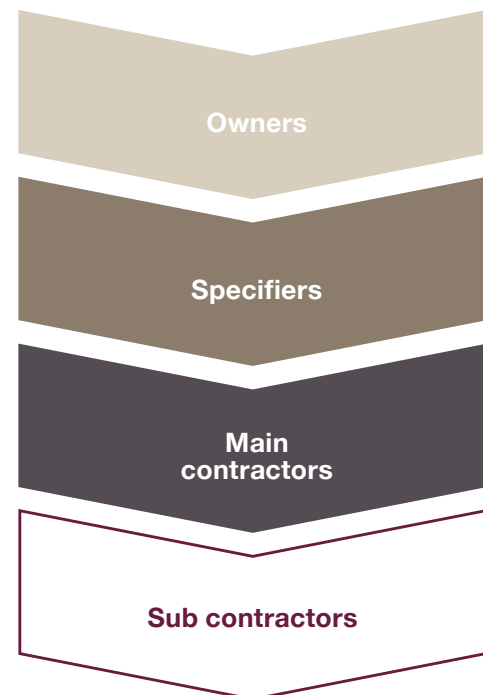
- [BIM services](#)
- [Engineering judgements](#)
- Cutting, kitting and pre-assembly
- [Customized logistics and storage](#)
- Training on engineering and software



# MEETING YOUR CHALLENGES



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 you solve them.



## ENERGY EFFICIENCY

A data center can consume the same amount of energy as some cities, so every marginal efficiency gain can deliver major cost savings.

- Our firestop sleeve helps you maintain air flow control and minimize pressure leakages.
- Our modular support systems give you the flexibility to modify your internal layout and hot-cold aisle containment more easily.

## UPTIME AND UPGRADES

It's critical that your data centers are always up and running and that you can adapt your data center flexibly to rapid technological advances.

- Our systems are designed to better withstand critical challenges ranging from fire to seismic activity.
- Our modular support systems give you the flexibility to make changes to your data center directly on site without having to strip down parts.

## STANDARDIZATION

When you need to build or renovate data centers in different countries, you need to get to grips quickly with local regulations and design standards.

- As a global firestop product manufacturer, we have tested our products to international standards and help you comply with local regulations.
- Our global presence and knowledge help you maintain the same standards globally and comply with requirements throughout the world.

## 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 – with no welding involved.
- Our logistics services such as cutting, kitting and pre-assembly help speed up on-site installation, reduce labor costs and ensure quality and reliability.

## GLOBAL SUPPORT

Speeding up time to market and outperforming the competition is often about maximizing the design consistency of your data centers all around the globe.

- As a global organization, we can provide the products you know best and deliver them to over 120 countries, helping you to make significant time and cost savings.
- Our teams are based all over the world, so you can rely on face-to-face support from people who are not only Hilti data center experts but local experts.



# RELIABLE SUPPLIER FOR YOUR DATA CENTER NEEDS

We support you all the way from design right through to 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 when you need them, in over 120 countries.



## CIVIL

## MECHANICAL, ELECTRICAL AND PLUMBING (MEP)



1 Shell



2 Hot / Cold aisle containment



3 Overhead grids



4 Mechanical & electrical, HVAC



5 Air handling units



6 Integrated floor systems



7 Equipment supports and platforms



8 High-voltage cabling supports

## BUILDING ENVELOPE

## FIRESTOPPING

## FASTENING ON STEEL

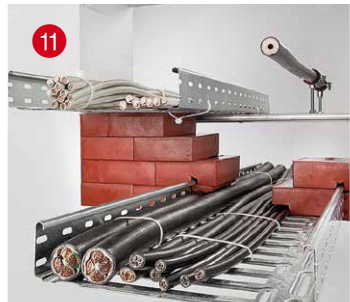
## FASTENING ON CONCRETE



9 Cladding



10 Data cabling



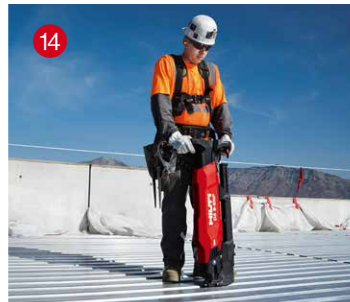
11 Electrical cabling



12 Piping and ventilation



13 Fastening



14 Decking



15 Cast-in anchors



16 Post-installed anchors



# END-TO-END PROJECT SUPPORT



Our end-to-end approach enables you to build data centers faster and get them up-and-running quicker. In this way, we help to shorten the time until they are generating profit and improving your service level to your customers.



## ENGINEERING

Our teams of highly trained local engineers offer you support either in your office or at your jobsite, among other things with the following:

- Creating detailed designs, including load calculations
- Generating firestop specifications and BIM modeling
- Performing jobsite tests using regularly calibrated test equipment
- Providing you with relevant reports and evaluations for incorporation into PROFIS, our anchor calculation software



## PROCUREMENT

We provide a one-to-one service during the procurement stage of your data center build, retrofit or maintenance operations, by:

- Creating a framework agreement that details roles and responsibilities as well as terms and conditions
- Creating an automatic material take-off
- Arranging the logistics services you need
- Ensuring your requirements are properly defined and met



## CONSTRUCTION

We can help you to increase your speed and productivity on-site, and minimize your material and labor costs, by:

- Cutting your modular support systems in one of our fabrication centers
- Consolidating the components into kits
- Delivering preassembled solutions
- Ensuring that items reach you exactly when and where you need them



# THE POWER OF BIM



**Building Information Modeling (BIM)** provides a digital environment in which architects, engineers and construction professionals can collaborate. In this way, it helps enable a smoother transfer of the design in the office to construction on the site. It's an approach that can save you time as well as material and installation costs.



## FRAMEWORK

Our BIM Project Managers work with you to break your data center project down into optimized mechanical, electrical and plumbing (MEP) solutions. The resulting [framework](#) provides a baseline for the BIM services that follow.

### Deliverables

- Breakdown of individual solutions and applications
- Design concept for MEP supports
- Hilti service offer for design services

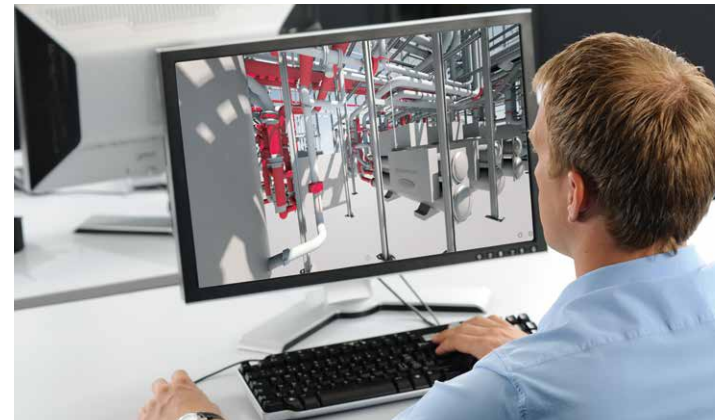


## DESIGN

An experienced Hilti Lead Engineer works one-to-one with you to evolve the concept into designed solutions ([Design Core](#)) and tackle any complex or non-typical areas, such as technical rooms ([Design Specifics](#)).

### Deliverables

- Fully designed MEP supports (“typicals”)
- Individual bill of materials and engineering reports
- Individual clash and exception reports



## BIM MODELING

Our [BIM Modelers](#) work with a Hilti engineer to conduct a quality control of the designed supports and add them directly into your digital twin, thus facilitating future maintenance and modification.

### Deliverables

- MEP supports added to BIM model
- Report of exceptions (issues)
- BIM-2-Field data



## DRAWING AND BILL OF MATERIALS

Our BIM modeler [drafts](#) all shop and overview drawings for you based either on our drawing template or your own customized drafting standards. You can then manage the logistics and procurement of quantity take-off, confident in the knowledge that the risk of human errors in assembly and installation is reduced.

### Deliverables

- Shop drawings
- Overview drawings
- Offer for cutting, kitting and pre-assembly services



# EXPERTISE, INSIGHTS AND TRAINING



Benefit from our expertise when you partner with us on your data center projects.



## ENGINEERING JUDGEMENTS

Every data center construction project is different, which is why we offer engineering judgements uniquely suited to your specific situation. These custom drawings are designed to fit the needs of applications that go beyond the scope of existing international or national guidelines.



## ENGINEERING SERVICES

Our highly skilled engineers and technical specialists work alongside your teams to develop design solutions for your structural or non-structural applications. We are also available to work with you on site during the construction phase to support your teams and your subcontractors.



## TRAINING AND ADVICE

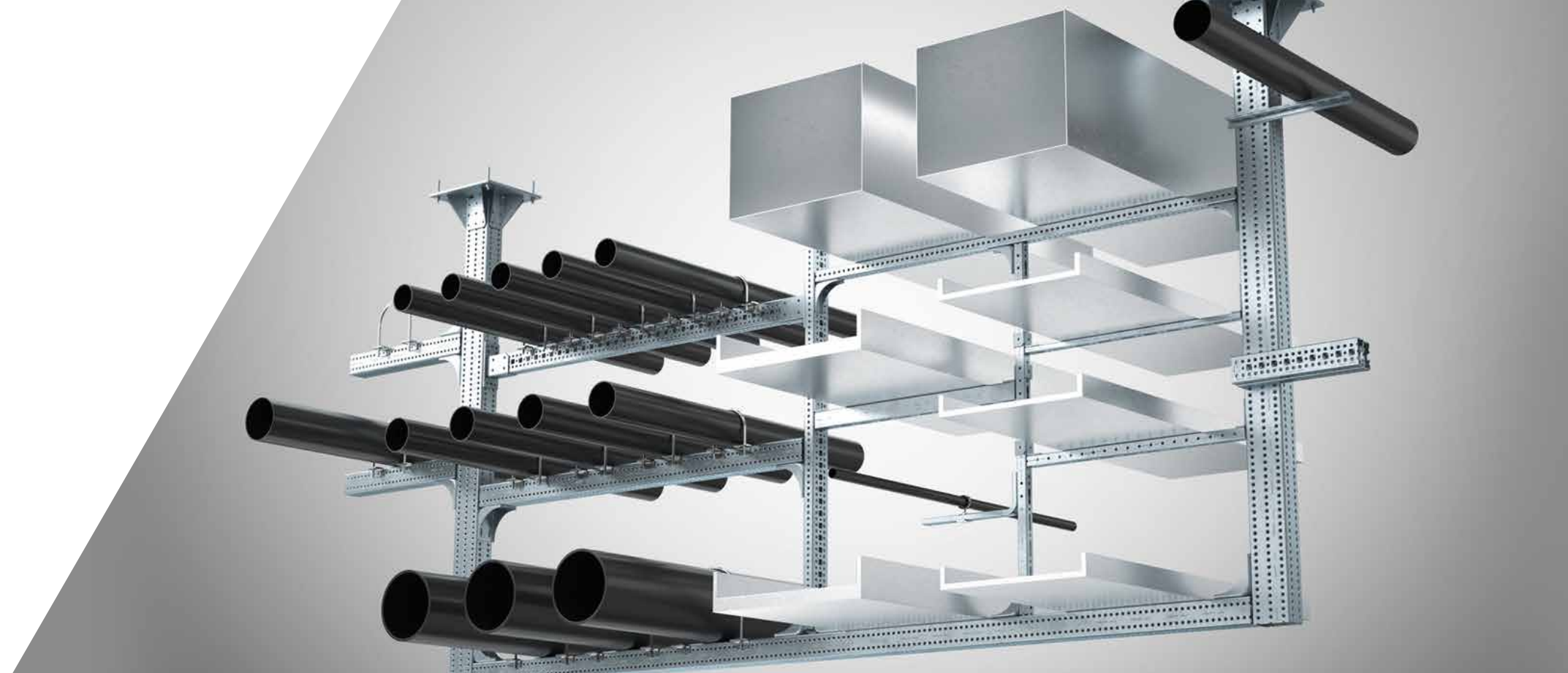
We offer training by highly experience professionals on a wide range of product, installation and engineering topics. Our in-person and digital courses provide a balanced mix of theory and hands-on training. They can be arranged at a time and place suitable for your business.



# MODULAR SUPPORT SYSTEMS

Our modular support systems are designed to be used and re-used in as many different configurations as you need, so when your needs change you can simply re-deploy the same equipment. That helps save you both time and money.

Because there's no welding involved, installation is typically quicker, easier and safer. You can add pipe supports, cable trays, duct runs, electrical outlets, bus bar supports and more to meet your original BIM models. Or adapt your supports as your needs change.



## TYPICAL USES

- **Hot and cold aisle containment:** change layouts more quickly and easily from one type of aisle to the other
- **Overhead grid system:** route pipes and cables more easily through the modular overhead space
- **Modular pipe racks:** create a space through which you can run multiple services

## MT SYSTEM

The [Hilti MT system](#) features cross compatibility and interchangeability, enabling cost-optimized solutions.

All components and baseplates complement the range of profiles, ensuring the whole installation can be realized with the same system.

A large portfolio consisting of trapeze profiles, C-channels (struts), and

closed profiles (girders) allows for easy design, even of complex multi-trade support installations. And on top, Hilti MT features direct girder-on-girder connectivity as well as direct fixation of profiles to girders.

Furthermore, some connectors are compatible with both strut C-channels and closed profiles (girders).

## SIW 4AT-22 – PUT AWAY YOUR TORQUE WRENCH

The Hilti SIW 4AT-22 Adaptive Torque system is the intelligent way to install anchor bolts on modular support systems. Simply point the built-in scanner to read the barcode on your box of anchors, pull the trigger on the cordless impact wrench, and let the tool do the work.

[Watch the video](#)

- Compatible with existing product range
- Documentation software for better accountability and back-office efficiency
- On-board sensors to confirm anchor torqued to ETA and ICC-ESR approvals





# PREFABRICATION AND LOGISTICS SERVICES



Once the engineering and design is done, the key target shifts to bringing the project to reality in the shortest time possible between the planning stage and the moment servers start pushing data around the globe.

This is where our prefabrication and logistics services come in. We can pre-cut and pre-assemble your modular support systems in one of our fabrication centers or consolidate components in a kit to help you minimize your material and labor costs during construction.



## MINIMIZE TIME TO OPERATION

You install your modular support systems on site:

- Match project planning and work scheduling to project timelines.
- Distribute material on the jobsite easier and faster.
- Spend less time locating components.
- Improve health and safety as no cutting is required on the jobsite.



## LOWER COSTS AND REDUCE WASTE

You avoid losing time searching for materials, cutting, or cleaning up afterwards:

- Make transportation easier and cheaper.
- Reduce waste as you only receive the quantities defined in the bill of materials.
- Reduce inventory management and storage requirements on your jobsite.



## HELP ENSURE HIGHEST SAFETY LEVELS

Specify your pre-fabrication needs during the design and help to reduce hassle on-site:

- We execute pre-fabrication to ISO 9001 quality management standards.
- What is designed is what gets installed.
- We can train your installer to do it right.
- Our logistics can provide a customized delivery schedule.



# FIRESTOP SOLUTIONS



We help you maintain uptime with its pre-formed firestop products, which are designed to reduce the risk of fires spreading and limit the costs of reconstruction.

## MECHANICAL FIRESTOPPING

Our range of firestop products for mechanical applications 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

Our range of firestop products for electrical penetrations 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
- **CFS-PL Firestop plug:** for temporary or permanent sealing around cables or bundles
- **CFS-CC Firestop cable collar:** for renovation of sealed cable penetrations with 100% fill and without removing existing firestop



## SANDWICH PANEL

We have cooperated with major manufacturers in Europe to fire-test a wide range of applications for sandwich panel and fire dampers and provide tested and certified solutions for a wide range of applications up to EI 120 ratings.

- MEP applications
- Fire dampers (circular and rectangular)
- Deflection solutions

[Watch the video](#)



## BIM FOR FIRESTOP

We can help to increase safety, improve your return on investment, and speed up inspections by simulating different fire scenarios in BIM and modeling the behavior of different materials and layouts.

- BIM for firestop for improved jobsite productivity with better project timelines
- Fully engineered and approved solution with upfront engineering judgements
- Section and plan view drawings

[Watch the video](#)



## SPEED SLEEVES

Our speed sleeves and fire-rated modular pathways offer industry-leading airflow control to improve the energy efficiency of your data center.

- Increased flexibility for simpler retrofitting
- Modular system allows cabling to grow to meet day 2 capacity needs
- Tested on sandwich panels up to EI 120 rating

[Watch the video](#)



## CABLE TRANSIT

Our one-stop solution for cable and pipe management results in greater safety, simplicity and productivity.

- Pipe and cables coverage up to 450 mm
- Proven firestop performance (UL 1479, EN 1366-3)
- Excellent water tightness performance up to 1 bar, IP 65,66,67,68
- Broad application fit for new building and retrofit application

[Watch the video](#)





# FASTENING ON STEEL AND CONCRETE



Faster, simpler and more reliable fastening systems – for most base materials. Our range of over 20,000 fasteners covers both complex and everyday applications.

## FASTENING ON STEEL

Data centers are typically built with a lot of steel but traditional go-to methods such as welding, bolting or clamping each have significant drawbacks. We offer three ways to overcome these issues:



### Sharp tip fastening

- A sharp tip stainless steel fastener is driven by a powder-actuated nailer into the base material
- Fastenings within a few seconds

[Fastening solutions](#)



### 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 two minutes

[Watch the video](#)



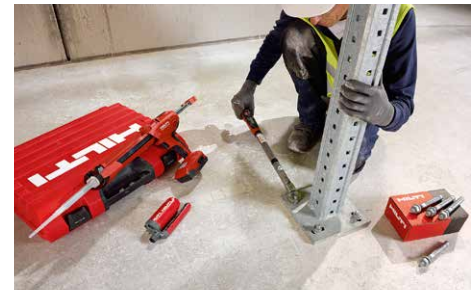
### S-BT blunt tip screw fastening

- A blunt-tip stainless steel fastener with a screw type shank is driven by a torque-controlled screwdriver into the predrilled hole in the base material, creating a tapped connection
- Fastenings in less than two minutes

[Watch the video](#)

## FASTENING ON CONCRETE

We have a wide range of faster, simpler and more reliable methods for fastening to concrete – no matter what your load requirements are. Our approved solutions help to meet even the most challenging design requirements or geometrical conditions.



### Base plate for steel structure

Our HST3 Metal expansion anchor is your go-to solution for safety fastenings in cracked and uncracked concrete.

If you prefer a chemical anchor, our HIT-HY 200 ultimate performance hybrid mortar lets you make heavy load fastenings without having to clean the holes.



### Medium- and light-duty fastening

Hilti's cast-in anchor channels, available in standard sizes and lengths for top-of-slab applications like server rack fixation. The benefits of using cast-in anchors include the ability to accommodate any design changes or technology upgrades in the coming years. In addition, these anchors offer ease of installation, increased



productivity, on-time project delivery, and avoidance of penalties. Moreover, the risk of health and safety hazards is minimized. The alignment of channels also offers maximum flexibility and eliminates the hassle of drilling. Plus, we provide various solutions for loads in shear (longitudinal) direction when needed.



# TOOL SERVICES



Building or modifying a data center takes a lot of tools. We offer services that help reduce the total cost of ownership, optimize your tool park, and minimize downtime due to broken, missing or stolen tools.



## HILTI TOOL SERVICE

Even though our tools are built to last, we will pay for any repair costs of your tool for up to two years from the date of purchase. This includes labor costs, replacement of faulty parts as well as pick-up and delivery. After the no-cost period expires, the repair cost will not exceed a certain price for the lifetime of the tool. Our lifetime warranty covers manufacturing failures for 20 years.



## TOOL PARK OPTIMIZATION

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 helping to save you money on hidden costs like procurement, administration and hiring replacement tools.



## FLEET MANAGEMENT

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 large capital outlay up front and predictable costs in the future.

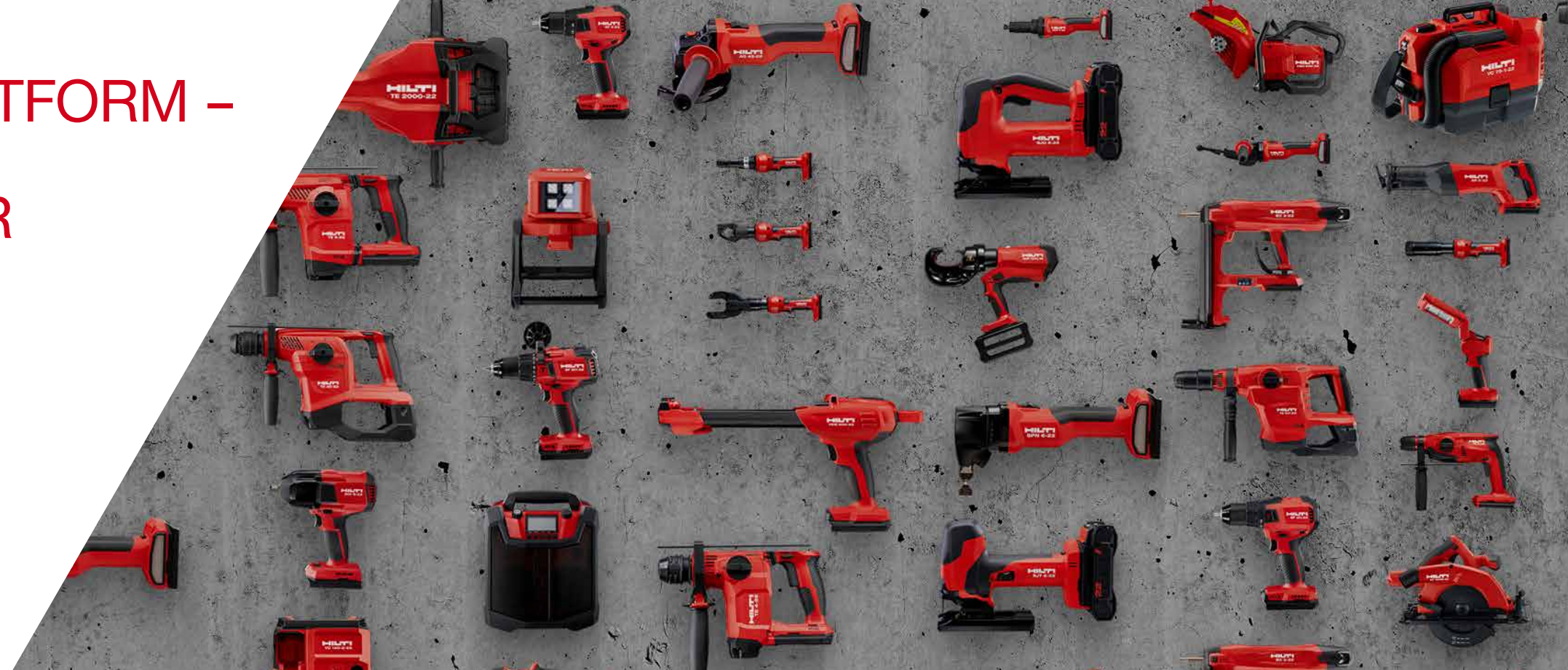


## ON!TRACK CONSTRUCTION RESOURCE MANAGEMENT

Hilti ON!Track tells you exactly what equipment you have, where it is and who is using it. It also alerts you when items need maintenance or calibration or when it's time to renew training or certification. Your equipment communicates via barcodes and Bluetooth with cloud-based software on mobile or desktop devices – meaning you can find your assets in an instant.system. So, if you want to stay productive and stay compliant as simply as possible, it's time to get ON!Track.



# NURON CORDLESS PLATFORM – MORE POWER AND FLEXIBILITY THAN EVER



Are you ready for the future of cordless working? With the [22V Nuron battery platform](#) from Hilti, you can finally perform your all corded and gas-powered applications on a single cordless platform.

From breaking and cutting to drilling and fastening, Nuron is designed for maximum performance, enhanced safety and improved user comfort.

## HOW NURON CAN HELP YOUR BUSINESS

### Single platform convenience

Power around 70 power tools on the 22V Nuron cordless platform – compatible from compact drill drivers for getting into small spaces to hard-working demolition hammers.

### Performance and power

Get more run time for your cordless power tools on a 22V platform that can deliver more power than 36V, corded or gas.

### Data insights for less downtime

Built-in battery diagnostics alert you on battery state of health while data-driven services help simplify tool crib management.

### Protecting your jobsite teams

Safety solutions range from tethers to dust control systems to built-in technologies that help lower the risk of angle grinder kickback.



**TE 6-22 / TE 4-22 CORDLESS ROTARY HAMMER**

Versatile SDS Plus cordless rotary hammer with wide drilling range, chipping function and quick-change chuck



**TE 2000-22 CORDLESS JACKHAMMER**

Powerful and light battery-powered jackhammer for breaking up concrete and other demolition work



**SC 5ML-22 CORDLESS CIRCULAR SAW FOR METAL**

Cold-cutting cordless metal saw for fast, precise cuts



**SIW 4AT-22 CORDLESS IMPACT WRENCH**

Compact-class cordless impact wrench with the ultimate balance of power and handling



**NUN 54-22 CORDLESS 6-TON CABLE CRIMPER AND CUTTER**

Universal 6-Ton cordless cable crimper and cutter with interchangeable jaws



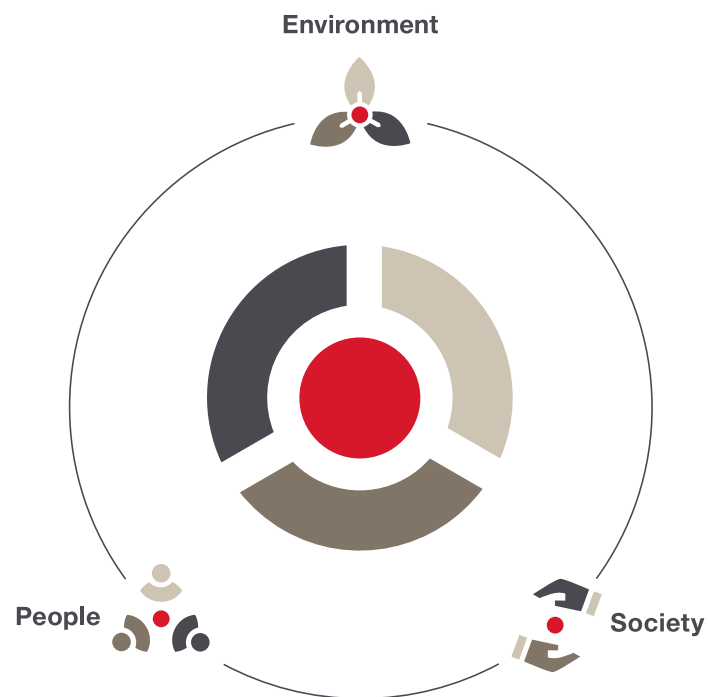
# BUILDING A MORE SUSTAINABLE WORLD



We strive to become the most sustainable player in the construction industry. We define this as our contribution to the environment, people and society. Besides accelerating our existing activities to make Hilti a more sustainable company, we will increase our focus on making our customers' business more sustainable, thereby becoming their partner for sustainability.

Securing long-term success through a business strategy that values ecological, people and social aspects equally with economic factors.

[Sustainability Report 2022](#)



## LOW CARBON FOOTPRINT AND CIRCULAR SOLUTIONS

We have a strong commitment to reduce carbon emissions in our operations and products and, as a result, provide more sustainable products to our customers. We have committed to set a near-term target to significantly reduce about 30 percent in our Scope 1, 2 and 3 emissions, in line with the Science Based Target initiative (SBTi), and we aim to reach net zero by 2050. We have also expanded our offering to support building methods with a lower carbon footprint. We continue to accelerate our investment in circular solutions that create lower amounts of waste and lower energy consumption. One additional way we support our customers is through suitable services in the product life cycle, like Fleet Management and our repair services.



## USER HEALTH & SAFETY AND BUILDING SAFETY

Health and safety complement our sustainable offering and also help to create a safe working environment, an aspiration that extends to our own employees.



## HIGHEST STANDARDS IN BUSINESS ETHICS

In everything that we do, we aim to ensure the highest standards in business ethics, both in our own operations and in the product value chain. To contribute to a better society beyond our value chain, we aim to create social impact at scale together with the Hilti Foundation, our integrated partner for sustainability.





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