

SIEMENS



Leading.
With
MAGNETOM.

[siemens.com/prisma-fit](https://www.siemens.com/prisma-fit)

Upgrade your MAGNETOM Trio
to the new MAGNETOM Prisma^{fit*}

The 3T PowerPack for exploration.

Upgrade now

and benefit from the latest innovations in 3T



You are working with MAGNETOM Trio – a perfect starting point to take the next step in MRI innovation. A powerful upgrade is now available for your system, making your 3T imaging more accurate, more productive and reproducible, whilst retaining the outstanding benchmark magnet homogeneity.

Upgrading your MAGNETOM Trio to the new MAGNETOM Prisma^{fit}, your still unmatched 3T magnet will be fitted with the newest and **most powerful 80 mT/m @ 200 mT/s gradients**, as well as the revolutionary RF technology **Tim 4G**.

The latest MRI technology will provide you with unlimited imaging and innovation capabilities to continue setting the future trends in MRI. Find out more on the following pages.

Your MAGNETOM Trio	The new MAGNETOM Prisma ^{fit}
Trio Magnet	>> Trio Magnet remains
TQ Gradients 45 mT/m @ 200 T/m/s simultaneously	>> XR Gradients 80 mT/m @ 200 T/m/s simultaneously, on all three axes
Standard CP Excitation	>> 2-channel TimTX True Shape with syngo ZOOMit
Maximum number of channels*: 102	>> Maximum number of channels*: 204
Number of independent receiver channels that can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image: 8, 18, 32	>> Number of independent receiver channels that can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image: 48, 64, or 128
syngo MR B-line	>> syngo MR E11 with new advanced applications
Without Dot	>> Up to 9 Dot Engines

*Channels (coil elements) that can be connected simultaneously.

Upgradeability. With MAGNETOM.

Powerful high-end MRI solutions support you in answering the fundamental questions of mankind.



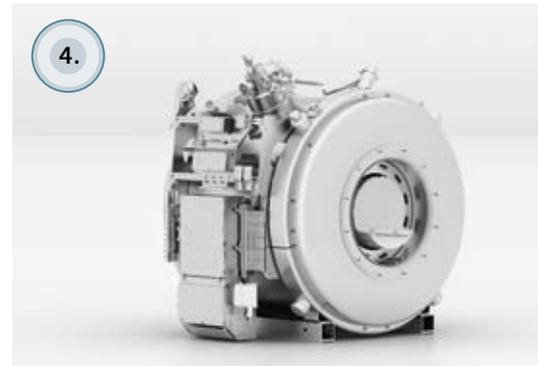
Step by step from MAGNETOM Trio to MAGNETOM Prisma^{fit}

Based on your original 3T magnet, you will immediately benefit from MAGNETOM Prisma^{fit}'s latest technologies: exciting new applications, its unique XR 80/200 gradient system, Siemens' revolutionary Tim 4G

architecture, TimTX TrueShape with *syngo* ZOOMit, Dual-Density Signal Transfer, and Dot workflow engines. And: The upgrade of your MAGNETOM Trio to MAGNETOM Prisma^{fit} can be completed in only 15 working days!



Magnet room
All covers, the body coil and the gradients are replaced with new ones. Now you can take advantage of our most powerful gradient system, the XR 80 mT/m @ 200 T/m/s.



Licenses migration
Installed licenses are migrated into *syngo* MR E.





Technical room

All cabinets are removed. You get new cooling, new control unit and new gradient power amplifier, in only 2 cabinets which can be installed virtually anywhere without compromising signal purity.



Operator's room

All workstations, monitors, and keyboards are removed and replaced by new ones. The new high-performance computer will accelerate your processing and post-processing significantly.



Magnet room

Tim's new all digital-in/digital-out DirectRF design is installed directly at the scanner. This eliminates analog cables leading to true signal purity.



Magnet room.

New covers are installed. Unique Dot (Day optimizing throughput) workflow guidance at the scanner for fast and reproducible imaging. New Tim table or optional Tim Dockable Table for higher mobility.



Hand-over

After installation and IQ test, a comprehensive application training is held to help you get the best out of your new system.



**More power,
more possibilities**
for your 3T magnet



Tim 4G enables larger field
of view exams in oncology
with easier set up combined
with highest patient comfort.

Are you ready to take the
next step in 3T innovation?

Time to

change



“Dot has the advantages of an automatic gear box: Changing gears is unnecessary, but we stay at the wheel and decide where to drive.”

*Dr. Professor Henrik Michaely, Section Chief
Vascular and Abdominal Radiology, Institute for
Clinical Radiology and Nuclear Medicine, Uni-
versity Medical Center Mannheim, Germany*

Higher reproducibility, higher productivity – with Dot.

Dot (Day optimizing throughput engine) is the next movement in MRI. Dot is a new way of scanning in MRI. Dot scanning uses a suite of customizable engines – allowing the user to personalize exams according to patient needs, build in step-by-step user guidance, and automate MRI exams. Your benefits include increased consistency

and reproducibility, greater ease of use, and higher productivity. Additionally, you can create project-specific programs to ensure an extremely high degree of reproducibility across group studies, or even multisite research projects. With MAGNETOM Prisma^{fit}, the following Dot engines are available:

Brain Dot Engine

- Up to 20% higher throughput and faster reading.*
- Reproducible positioning and standardized image quality.
- Consistent exam duration and more efficient scheduling.



*Data on file. Results may vary.

Large Joint Dot Engine

- Standardized examination and reproducible positioning with Auto Coverage and AutoAlign.
- syngo WARP for reduction of susceptibility artifacts, such as from MR conditional metal implants.



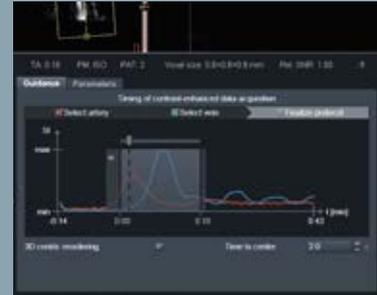
Abdomen Dot Engine

- Up to 28% better timing accuracy.*
- Consistent image quality foreven complex abdomen examinations



Angio Dot Engine

- Automated calculation of contrast agent application.
- Interactive contrast timing approach eliminates need for cumbersome calculations.
- Increased timing accuracy and image consistency.



Cardiac Dot Engine

- Up to 50% increase in patient throughput*.
- Consistency in slice positioning for reliable image quality over multiple exams.
- Ease-of-use, helping bring cardiac MRI into your clinical routine.



Spine Dot Engine

- Complete spine examinations with ease
- Fast and standardized scanning
- Consistent and robust image quality



Also available:

- Breast Dot Engine
- TimCT Angio Dot Engine
- TimCT Onco Dot Engine

Experience Dot yourself:
www.siemens.com/Dot

*Data on file. Results may vary.

New applications, **new possibilities**

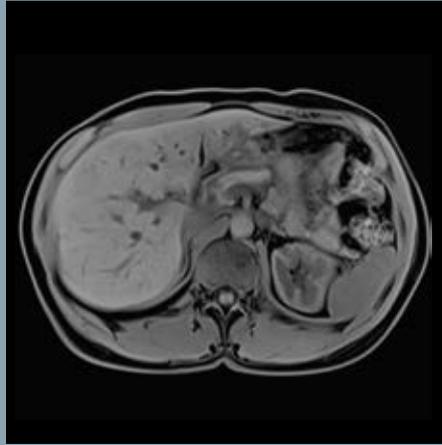


New Generation iPAT²

More slices and coverage in the same breath-hold by applying PAT in 2 directions simultaneously (phase encoding direction and 3D direction for 3D sequences).

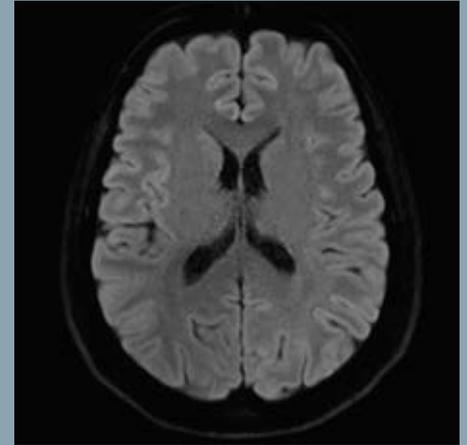
The effective PAT factor can be maximized, and PAT applications are extended. Typical clinical applications are MR Angiography or ultrafast isotropic T1-weighted 3D imaging of the head.

The new iPAT² is a significant improvement for any 2-dimensional acceleration (PE&PAR). It plays out its benefit especially in abdominal imaging.



CAIPIRINHA

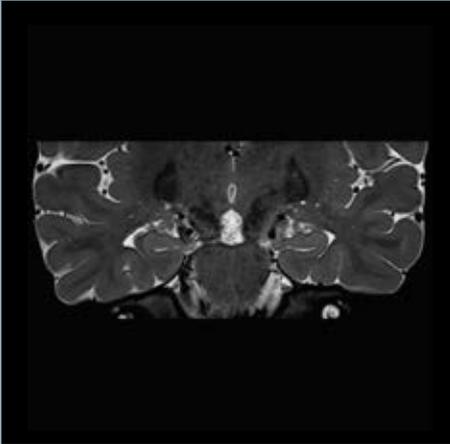
A new iPAT² sequence technique named CAIPIRINHA (Controlled Aliasing In Parallel Imaging Results IN Higher Acceleration) brings even higher image quality. It can be applied to volumetric 3D imaging e.g. in the abdominal region.



syngo RESOLVE

syngo RESOLVE (Readout Segmentation Of Long Variable Echo-trains) delivers high-resolution Diffusion-Weighted Imaging (DWI) to visualize the diffusion properties of fine anatomical structures, enabling accurate lesion evaluation.

Additionally, this technique is largely insensitive to susceptibility effects, providing detailed anatomy-true diffusion imaging for brain, spine, breast and prostate.



Parallel transmit imaging

The parallel transmit (pTX) technology TimTX TrueShape enables selective excitation of specific body areas through independent transmit channels. *syngo* ZOOMit is the first fully dynamic pTX application based on TimTX TruShape. This enables zooming without aliasing leading to higher resolution, reduced scan times and less artifacts.



syngo REVEAL Improvements

Now you can independently select the number of averages for each b-value. This feature relies on the fact that the SNR decreases with the b-value. Therefore lower b-values can be measured with fewer averages and keep an acceptable SNR, hence reducing significantly the total acquisition time without decreasing image quality.



syngo ASL 3D

3D Arterial Spin Labeling (ASL) allows the non-invasive evaluation of brain perfusion without the injection of a contrast agent.

syngo MR E11 offers the possibility of measuring 3D ASL with multiple inversion times (TI). This option provides data which can be used for Bolus Arrival Time (BAT) map calculations. Multiple TI acquisition allows for acquisition of raw label-control pairs at different (equidistant) inversion times.

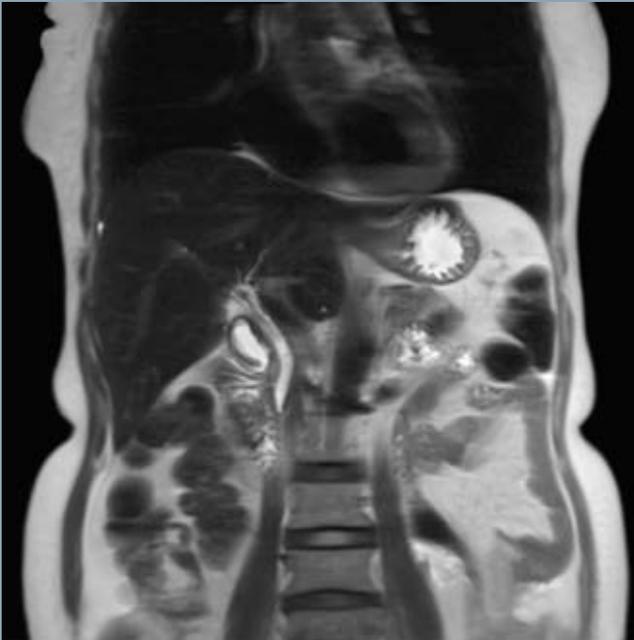
3D ASL is the radiation free alternative to PET as it offers an increase in SNR and a shorter scan time with reduced motion sensitivity.

See finest anatomical detail and visualize functional processes

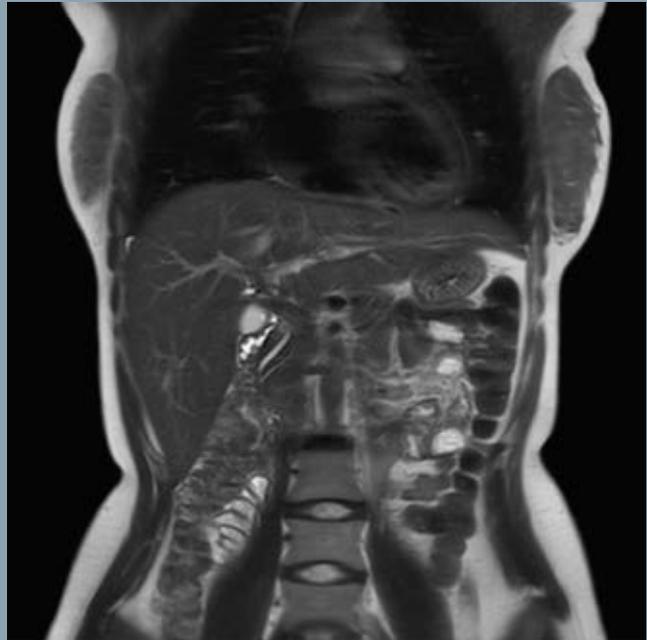
Better homogeneity, **Higher SNR**

With Tim 4G's ultra-high density array you get increased signal-to-noise (SNR) for all areas of interest. In this case of a large-field-of-view abdomen up to 50 coil elements can be activated. Additionally, with Siemens standard parallel transmit solution TimTX TrueForm you receive a very homogeneous image quality.

MAGNETOM Trio



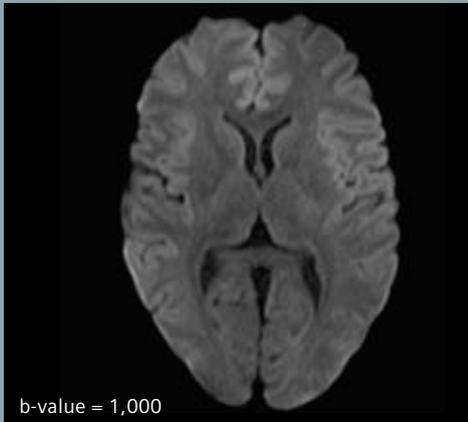
MAGNETOM Prisma^{fit}



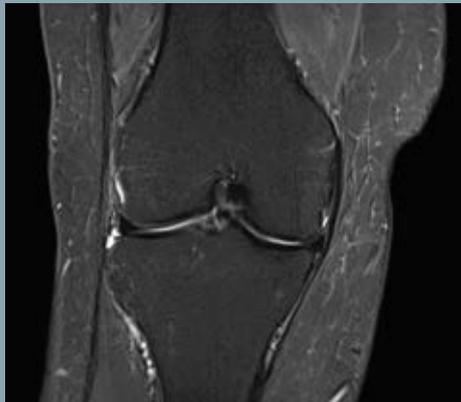
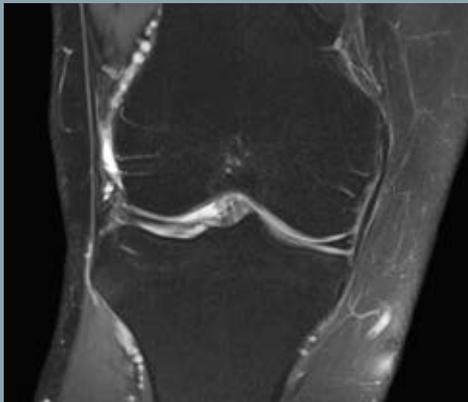
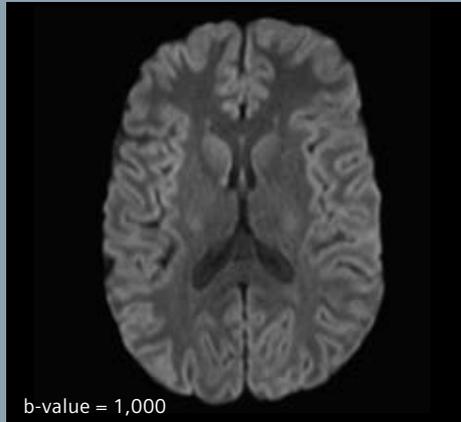
Higher resolution

With the new high-performance XR 80/200 gradient you'll get significantly increased SNR for diffusion weighted imaging. This is the basis for excellent functional and structural brain imaging.

MAGNETOM Trio



MAGNETOM Prisma^{fit}



It also leads to better fat saturation and higher resolution joint imaging.

The 3T PowerPack

New power, more flexibility, higher speed

Keep pace with technology by taking advantage of the new upgrades, coils and applications for your MAGNETOM Trio as they are developed.

Upgrade now to MAGNETOM Prisma^{fit} with **Tim 4G technology** and enjoy its exceptional flexibility, accuracy, and speed. The revolutionary Tim 4G architecture brings you the highest coil element density delivering more signal than ever before. Now combined with a maximum number of channels of 204*.

With the new **XR 80/200** gradients you receive outstanding gradient performance leading to exceptional diffusion weighted imaging and excellent robustness overall.

You also get **TimTX TrueShape**, the first platform in the MR industry that makes full use of the dynamic capabilities of a transmit array system. The first fully dynamic application based on TimTX TrueShape is the new **syngo ZOOMit** – the first zoom function in MRI.

*Channels (coil elements) that can be connected simultaneously



MAGNETOM Prisma^{fit}
A Tim+Dot System

A completely new coil architecture was developed for your upgradeable system: **Dual-Density Signal Transfer** enable more coil element and higher SNR.

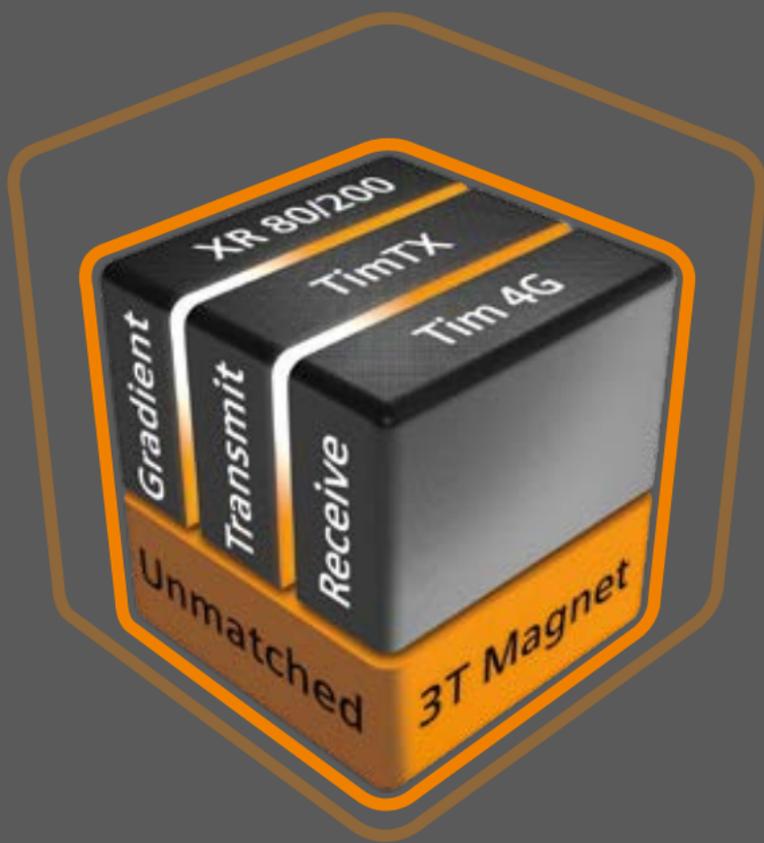
The upgrade also includes **Dot**, the next movement in MRI. Dot workflow engines make it easy to get the best possible results for virtually any type of patient – by providing patient personalization, step-by-step user guidance, and exam automation.

Additionally, you can create project-specific programs to ensure an extremely high degree of reproducibility across group studies, or even multisite research projects.

In short: Upgrade your MAGNETOM Trio, a Tim System, to a MAGNETOM Prisma^{fit}. Just look at the extensive list of new components and applications that you will receive with the upgrade – welcome to the future of MRI!

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The 3T PowerPack

MAGNETOM Prisma^{fit}'s core technologies

The PowerPack combines your unmatched 3T magnet with 80 mT/m @ 200 T/m/s gradients. The latest parallel transmit technology, TimTX TrueShape enables zooming into specific body regions for enhanced image quality. Furthermore, the Tim 4G integrated coil technology offers remarkable imaging flexibility and supports complex examinations across the whole body.

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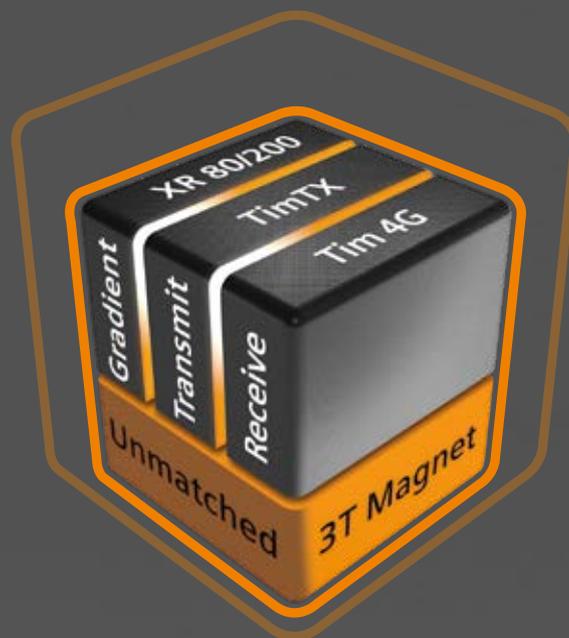
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The 3T PowerPack

New hardware

- New RF system with 48, 64 or 128 independent receiver channels that can be used simultaneously in one single scan and in one single FOV, each generating an independent partial image
- New XR Gradients with 80 mT/m @ 200 T/m/s simultaneously, on all three axes
- New Integrated Tx/Rx Body Coil
- High-order shim (standard), new SpectroShim high-order shim (optional)
- Fully digital with DirectRF
- Parallel transmit architecture TimTX TrueShape, enabling new applications like *syngo ZOOMit*
- Tx/Rx real-time feedback loop for dynamic RF
- New patient table for easier patient handling
- New covers
- Audio Comfort improvements for quieter, more relaxed examinations

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New standard coils

- New Tim 4G coil technology with Dual-Density Signal Transfer, DirectConnect, and SlideConnect technology
- Excellent image quality, high patient comfort and unmatched flexibility
- New Head/Neck 20, Spine 32, Body 18, Flex Large and 4 Flex Small 4

New optional coils

- New Head/Neck 64
- 2nd Body 18
- Peripheral Angiography 36
- 16-channel Foot/Ankle
- 16-channel Wrist
- Tx/Rx 15-Channel Knee Flare Coil
- Tx/Rx CP Head Coil for 1.5T DDST
- 4-Channel Special Purpose Coil

Tim 4G coils benefits

- Designed for highest image quality combined with easy handling
- High element density of the coils increases SNR and reduces examination times
- DirectConnect and SlideConnect technology reduce patient set up time significantly
- Light weight coils with an open design ensure highest patient comfort for better patient cooperation and image quality
- No coil changing with multi-exam studies saves patient setup- and table time
- All coils are time-saving "no-tune" coils

New Computer system for faster reconstruction

- New host computer and image reconstruction computer
- optional power reconstructor with up to 128 GB RAM, 2xCPU's and 2xGPU's

New Tim table

- Scan range of up to 205 cm
- Patient table can be lowered to a minimum height of 52 cm from the floor (5 cm lower than the Trio) for easier patient positioning and better accessibility
- Tim Table can be moved with two clicks into the isocenter – one click to the upmost position and one click into the isocenter

New Tim Dockable Table

- The optional Tim Dockable Table increases comfort for immobile patients, patient transport and more
- Fast dock / undock functionality for a better patient handling.
- It fits the needs for patients up to 250 kg

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