- Exclusivity: From the initial idea to the finished custom chip, you receive a tailor-made solution that works perfectly as a physical analogue of your process.

Stop calculating in 0 and 1. Calculate in reality!

iREDAC (intermediate reconfigurable energy-efficient digital analog computer)

our REDAC analogue computer has a modular design.

A backplane is equipped with up to seven mREDACs, with each mREDAC containing three clusters.

Each mREDAC module consists of identical electronic and mechanical components. The modules are installed in a standardised server rack that has been specially developed to accommodate IT hardware. The digital and network components used are already CE-certified and do not represent any new developments.

Price

The price is calculated based on the respective configuration, the number of clusters used, and the number of M-blocks required.

Contact our sales team to discover the power of Analog-Hybrid Computing.

anabrid

Contact Details

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World leader in analogue-hybrid computing

combines the power of analogue computers with the accessibility of digital systems.

is many times faster than traditional digital computers for certain types of problems.

currently used primarily in research and teaching, where complex dynamic systems are modelled and simulated in real time.

think hybrid

From phenomenon to silicon: real-time computing in a new dimension

Do you have a dynamic system that pushes conventional digital computers to their limits? We accompany you on the direct path from mathematical observation to the finished hardware solution.

1. The process: precision through analogy

Forget tedious coding and discretisation errors. With our analogue hybrid computers, you can map complex differential equations – such as those of an acoustic control loop – one-to-one in hardware.

- Modelling: translate physical processes directly into continuous computing structures.
- Interaction: Optimise parameters in real time and observe system behaviour without computational delay.
- Hybrid power: Harness the precision of analogue computing cores combined with the flexibility of digital control.

2. The future: Build Your Own Chip

For us, the analogue hybrid computer is not just a simulation tool, but the blueprint for your product.

We transfer what you successfully implement on our computer to silicon for you:

- Seamless transfer: the circuit verified on the hybrid computer serves as a direct template for the chip design.
- Efficiency: We implement your application as a dedicated analogue or hybrid chip – extremely fast, highly integrated and with minimal energy consumption.

	U-Block	C-Block	I-Block	SH-Block	CTRL-Block	COMM-Block
Image						
Description	Distributes **16** input signals to **32** outputs, whereby a signal can be routed to more than one output	implements **32** coefficient elements based on multiplying DACs, each with a resolution of 32 bits.	routes **32** values represented by currents to **16** output lines, whereby implicit summation occurs due to current coupling when more than one input current is routed to an output line	Serves as analogue memory. It enables a continuously changing analogue voltage value to be "frozen" at a precise point in time. It contains **16** sample and hold circuits	control of analogue computing, and the communication between the digital and analogue parts. With the help of the microcontroller implemented, it can perform simple digital tasks.	Hybrid controller that implements communication between analogue computing technology and the digital control computer
Price	1.500,- EUR	1.500,- EUR	1.500,- EUR	2.000,- EUR	2.000,- EUR	2.000,- EUR

	M-Block INT	M-Block MUL	M-Block MDR	M-Block FUNA	T-Block	mREDAC-PCB
Image						
Description	implements signal integration. It comprises **eight** integrators with current input and voltage output.	implements the multiplication of signals. It comprises **four** multipliers, each of which has two inputs, *xi* and *yi*, and together they deliver four output signals	Implements **four** multiplier and **several** other mathematical functions	implements a couple of analogue function generators	Topology block of an mREDAC. This can be used to implement various configurable coupling topologies at the mREDAC level, i.e. between the **three** clusters.	analogue hybrid computing clusters are formed based on blocks containing calculation elements and coupling matrices. **Three** of these clusters make up the mREDAC. This is the smallest self-sufficient functional unit.
Price	3.000,- EUR	3.000,- EUR	3.000,- EUR	3.000,- EUR	2.000,- EUR	5.000,- EUR

	T-Block BPL	iREDAC-PCB	iREDAC-Case	HUB	Power-Supply	REDAC-Rack
Image						
Description	Topology block of an iREDAC. This will be used to implement various configurable coupling topologies between the mREDACs.	The backplane can accommodate up to **seven** mREDAC units and establishes connections between them. Additionally, it provides the infrastructure for signal routing beyond the backplane.				
Price	2.000,- EUR	5.000,- EUR				