CYTOMED GMBH · D-76530 BADEN-BADEN
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CEO Mathias Schobel. mobil +49 171 8392134

Offer for projects worldwide.
Summary Cytomed GmbH . Consulting.
we provide, advice, projects worldwide.
our partners are modern international great factories.

Our job is composed,
- Project Contacts
- Planning of projects (architects)
- Ioan, based Financing MT70, (client bring BG from top 25 int. bank)
- Construction of projects (with construction companies from Germany and Turkey)

We can build with our company and partner companies.
- Residential buildings, high-rise buildings, villas, public housing, **shell or turnkey**.
- Hospitals, Military Hospital
- Latest Medical Technology, German and Swiss products. The best worldwide.
- Roads
- Universities
- Industrial
- Hotels
- Football Stadium
- Airport.
- Hydroelectric power plants
- Water treatment and sewage plants. Drinking water for the people.
- Green Energy: energy, photovoltaic systems (latest technology) ext…
- **Whole districts, cities for 120 000 people construction period 10 years with 2 factories.**

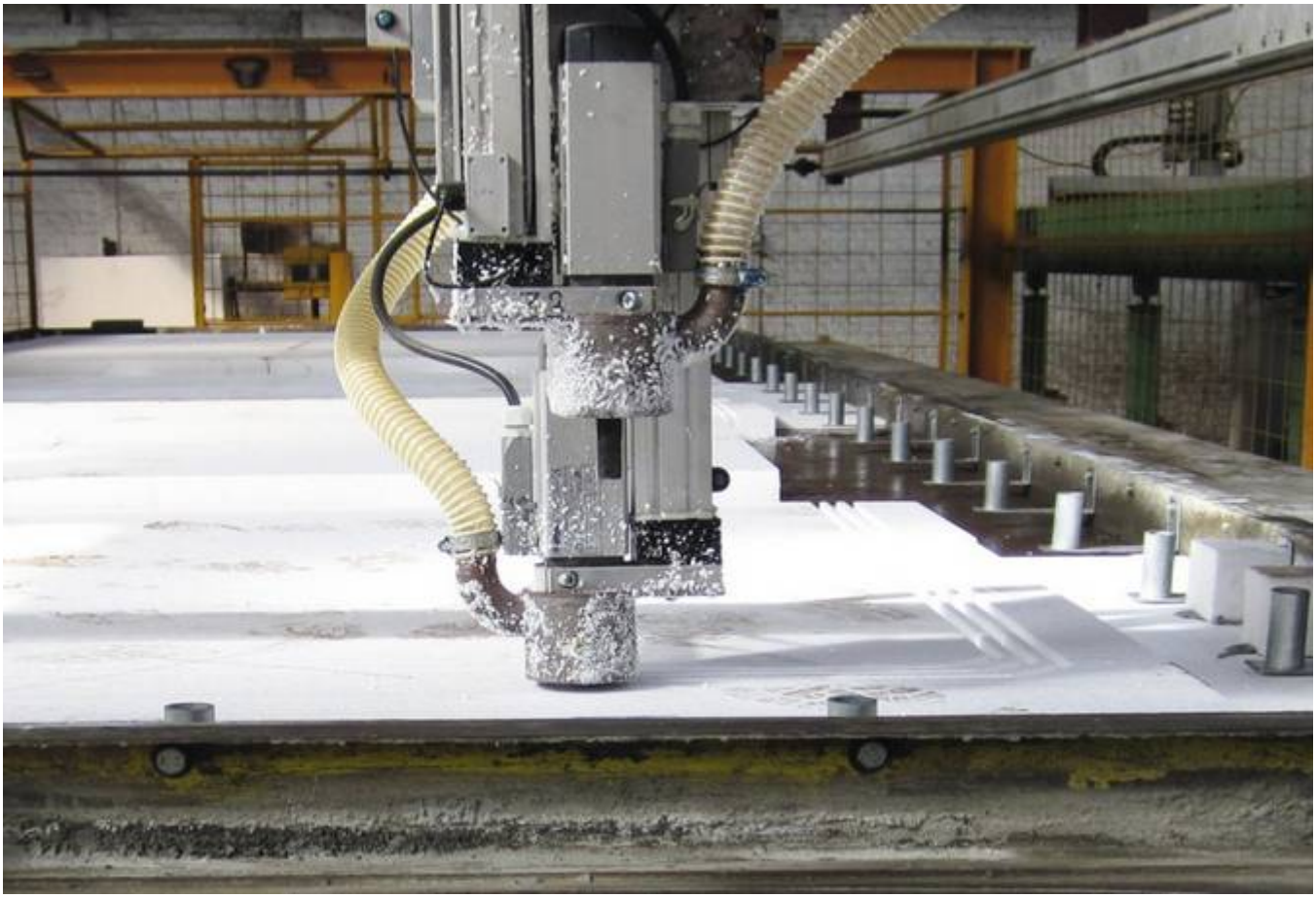
Project Kiev apartments 5000th Shell construction cost $ 1.1 billion.
Apartments a 100m / 2 for 4. poeple or more (offers brochures)

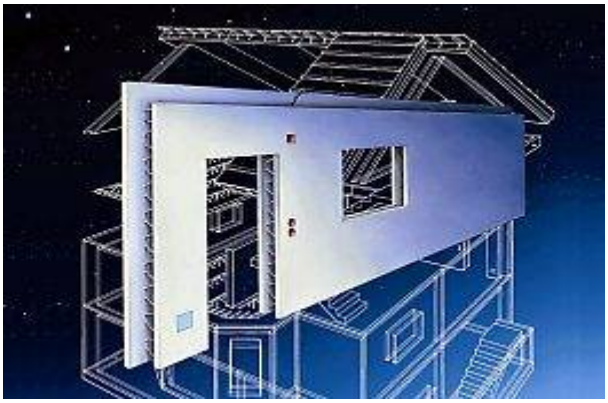
5000 Apartments construction period in 2.5 years for 20 000 people with on factory.
500 000 m / 2 Living Area.
Cost: 40% cheaper than conventional building systems.
Time: 50% faster than conventional building systems completed.

We deliver: factories from Germany, BFT factory latest construction technology good for Africa, Arabia, Eastern Europe, Russia and China. For all climate zones.

Additional features:
Green Energy supply for these apartments, whole cities.
Drinking water supply, sanitation for these apartments, cities.
Heating system and energy. (Block power stations. Ext ...

Factory





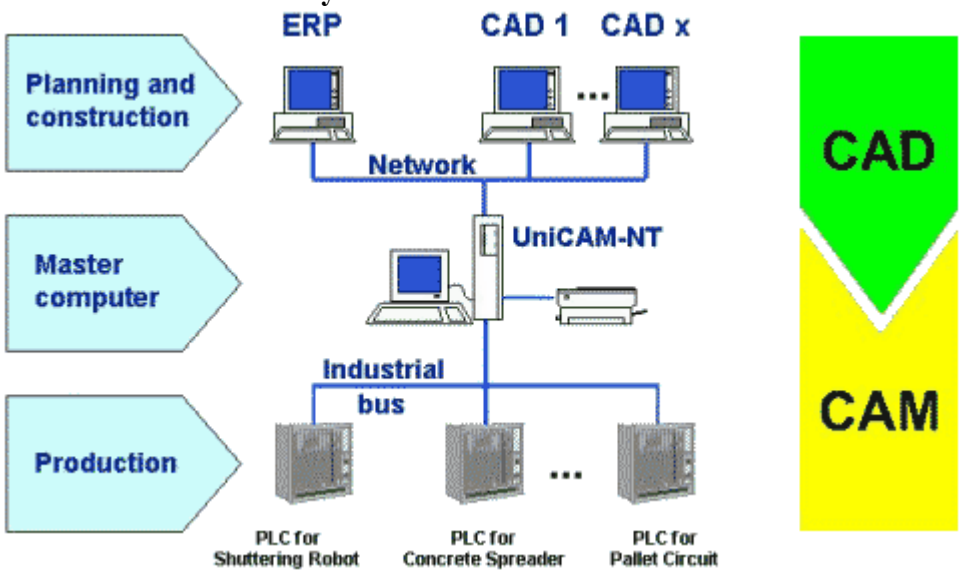
New Building System

Production of precast concrete

Precast concrete is produced on steel pallets (approx. 13m x 3,5m). The production is done by a circulating system. Each precast concrete part is produced individually (lot size 1).

The walls and element slabs are designed on a CAD system. These data are read by the host computer and transformed into machine data. The host computer controls the complete system.

IT Configuration of a Precast Factory



The sheating consists of steel profiles, which bond on the steel pallet by means of strong magnets. The sheating is set by a sheating robot. The data for the positioning of the sheating is done by the host computer.

The reinforcement is placed either manually or by means of an insert robot. Electrical boxes, empty pipes etc, are placed manually.

The concrete is set by means of an automatic concrete spreader. This is how the concrete is distributed in the right quantity on the right place. The concrete spreader gets his data from the host computer (special software).

A hardened concrete shell is turned into a just concreted shell and a double wall is created.


Vollert

Now the formwork is dismantled and the elements are lifted off and transported to the site.

The Building System

Description of the Building System
In Central Europe, a special type of technology has been developed which systematically splits up the various elements of a construction planned in in situ concrete in order to have them produced as pre-cast concrete parts which, then, only need to be assembled at the construction site. This system is called "Pre-cast parts with in situ concrete finishing". After these parts have been assembled and given the required finishing with in situ concrete, the building they form is considered to be statically as worthy and stable as constructions built monolithically. Apart from this type of pre-cast product, there is also the completely ready made pre-cast parts. Although they are different, both types, in whatever form they come, are generally called 'pre-cast concrete parts'.

Every construction which can be built with in situ concrete can also be built using this technology.

A common misconception concerning pre-cast products is, that they lead to architectural restrictions. In fact, nothing could be further from the truth, for in addition to the typical parts or similar standard units, one can also deconstruct any geometrical element of a building into pre-cast concrete parts and reassemble it at the construction site. The main area where one can apply such technology is in residential and office buildings, as the rooms it creates are aesthetically more beautiful.

Office Building in Russia

The main advantages are:

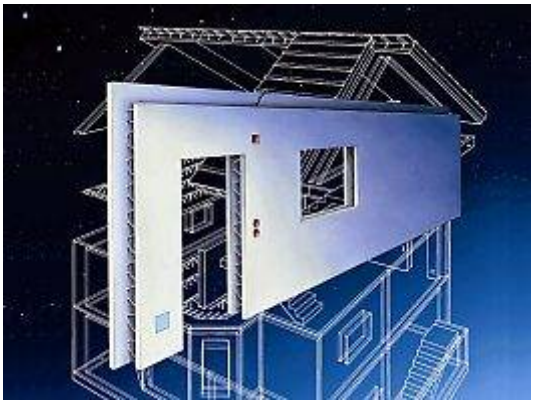
- Building with pre-cast concrete elements opens up the opportunity to have a separate production because a part of the required products can be stored ahead of time no matter at what stage the construction is.
- Pre-casting takes place in work sheds and therefore weather conditions are irrelevant.
- Pre-cast concrete parts have a different rate of production than at the construction site. One could therefore stock supply and only deliver the amount required to the construction site.
- This production technology is extremely precise when it comes to measuring. As a result, the usually prescribed width of the fixed concrete layer can be reduced. The steel reinforcement can be built exactly to requirement and therefore used optimally.
- The finished construction is built with a high level of precision.
- Due to a so called "all round calculation" the normally statically required reinforcement can be completely built and set into the concrete parts. As a consequence the time required to process reinforcement material at the construction site is reduced.

- Transporting the pre-cast concrete parts to the construction site is easy. The measurements of most pre-cast concrete parts often do not require the use of a long vehicle. Floor slab elements normally weigh about 130kg/m², double walls about 270kg/m².

- This technology could replace building with skeleton frameworks. The advantage lies in having smooth wall and ceiling surfaces. Visible support structures are no longer required as they are incorporated within the concrete part.

- Pre-cast concrete parts replace formwork at the construction site as they themselves form the layer into which in situ concrete is poured.

- The surface of the pre-cast concrete elements is smooth due to being produced in pallets (steel formwork). Plastering is not required as very often the concrete surface is good enough for paint work.



Precast Concrete Technology

Longtime international experience in introducing precast concrete technology into different parts of the world together with the appropriate concept for the implementation of plants for the production of precast concrete components enable us to offer individual solutions for our customers. No matter if our customer is an experienced producer of precast concrete components already or just about to enter this technology.

Our consultancy takes into account all aspects around the introduction of this technology, thereby obviating the risks involved. To be successful with this technology at short notice, the learning curve must be kept flat. Together with our partners from architecture, statics, production and assembly of components we are in a position to tie up a customized parcel for the introduction of the technology.

Excerpt from our Services

1. Assistance in Introducing Systems

- Redesign of architecture for the application of precast concrete components
- Design based on locally characteristic details (e.g. component's joints and connections, construction of joints, new building elements, etc.)
- Assistance in the issuing of advertising material including cost comparisons, advantages of the building system, etc.
- Product trainings, presentations for users
- Assistance in the application of permits/licenses

2. Planning Services for Precast Plants

- Consultancy and support in the application of suitable software
- Setting-up and start-up assistance for distribution
- Contract checks and checklists for distribution
- Setting-up and start-up assistance for the technical office
- Procuring of specialized staff for planning
- Taking over technical offices' services either during the start-up or permanently

3. Guidance and Control of Production

- Procuring of specialized staff for production
- Reinforcement and fixture checks, formulation of operating instructions
- Support of setting up quality control (e.g. test laboratory), demoulding, intermediary transport and intermediary storage

4. Transport and Delivery to the Building Site

- Formulation/design of stacking rules, transport units and intermediary storage administration
- Securing of loads when transporting precast concrete components

- Unloading, intermediary storage on building sites

5. Building Site Supervision

- Procuring of specialized staff for assembly, either long or short term
- Providing of assembly and installation instructions for precast concrete components
- Instructions for the manufacture of joints and operation of joints
- Manufacture of assembly aids
- Maintenance of industrial health and safety standards, assembly safety

Control level



We create the complete control engineering for our production automation systems under our own roof. Highly qualified employees use the most modern tools in the designing and realization of the control level. And this is how we proceed:

Electro design

Sensors and motors as well as control points and operator terminals are laid down. Selection of the bus system and of the electrical components as well as designing of the switch cabinets and terminal boxes needed. The designing is carried out with the aid of the electro-CAD system ePlan. All cabinets are produced in our own switchgear construction.

Software engineering

The functions of the material handling and the machines are represented in the control software. Close "intermeshing" of the IT system and the control engineering is achieved via an individual visualization system. With the aid of simulations the control software is put through its paces before it is supplied to the construction site.

Installation and commissioning

We install electrical systems and commission the control software we have designed throughout the world. Here it is important for us that the customer's personnel are involved at an early stage and thoroughly trained.

Production Cost

Pos.	Name	Filigree Slab 1 m² Price in Europe	Double Wall 1 m² Price in Europe	Solid Wall 1 m² (150 mm thick Price in Europe
A	Concrete	2,15 €	4,35 €	6,53 €
B	Reinforcement (10kg/m²)	3,10 €	3,10 €	3,10 €
C	Helping Material	1,10 €	1,50 €	2,00 €
D	Inserts (e.g. Door and Window frames)	-	-	5,00 €
E	Energy Cost	0,35 €	0,50 €	1,00 €
F	Maintenance	0,60 €	0,60 €	0,55 €
G	Heating system	0,10 €	0,20 €	0,30 €
H	Labour Cost Production	3,20 €	6,50 €	10,00 €
I	Labour Cost Office	0,50 €	0,70 €	1,00 €
J	Principal and Interest	2,25 €	2,25 €	2,25 €
K	Administration	0,35 €	0,35 €	0,35 €
	Production Price of one m²	13,90 €	20,25 €	32,05 €

Transport of the Elements

	Name	Filigree Slab	Double Wall	Solid Wall (150 mm thick)
L	Load Element Truck (25.000 kg)	140 m²	80 m²	60 m²

Building Site

	Construction Type	Factory	Building Site	
		Required time in man hours per square meter		Total
M	Bricks / Cast in Place	0,05	3,00	3,05
N	Pre cast parts	1,00	0,25	1,25

Work on the Building Site

Action		Time	
In Situ Concrete	Pre Cast Parts	in Situ Concrete	Pre Cast Parts
Erection of the Outside Formwork	Mounting of the Wall Element	1	1,2
Reinforcements, Inserts	Reinforcement for the Connection	1	0,2
Erection of the Inside Formwork		1	-
Placing the Concrete		1	-
Treatment of the Concrete		1	-
Placing the Formwork for the Floors	Mounting the Floor Elements	1	0,33
Lower Reinforcement in the Floor	Reinforcement for the Connection	1	0,2
Placing the Concrete on the Floor	Placing Concrete (Wall and Floor)	1	1,7
Removing the Formwork	Removing the Supports	1	0,2
Follow up Treatment	Follow up Treatment	1	0,2
		10	4,03

1 = 100% of the Work Time by in Situ Concrete

Advantages of Precast Concrete Buildings

Environment

- Sustainable - concrete is a natural building material, 100% recyclable
- Reduction of squandering of energy, water and building material
- Very low waste in the production process
- Reduced packaging materials
- After demolishing of a concrete building the material such as concrete and steel reinforcement can be recycled and reused in new buildings

Economic

- Fix price and fixed hand-over date
- Short-time erection - less costs for financing and for site equipments
- Industrialised building - less supervision, less crafts, less coordination
- Precise reinforcing during prefabrication saves steel and ensures exact rebar figures
- Precise consumption of all material used (cement, steel etc.) - pre-fabrication in a factory -controlling
- No maintenance of the building necessary

Quality

- High quality: Pre-fabrication independent of weather conditions
- Highest precision and quality of the concrete elements
- Best quality due to the quality control in the precast concrete plant
- Best possible fire resistance without additional efforts
- High noise protection and best thermal behaviour
- Low moisture content in the finished building

Design

- Optimized exploitation of living area - slim construction wall elements
- No constraint of architectural design
- High quality of precast elements save costs for plastering, only joint filler and paint or wall paper required
- Concrete gives a versatile and durable façade with all possible finishes and colours

Construction

- Accurate production guaranteed by factory environment
- Load-bearing walls substitute frame or skeleton structures which is a cost reduction
- High grade of in-factory completed embeds (pipes, conduits, electric boxes etc.) reduces the time of assembly and completion on the building site
- Earthquake-resistant building system

The final result of this technology is comparable to concrete in-situ constructions and for the engineers easy to understand and to handle

Assembling

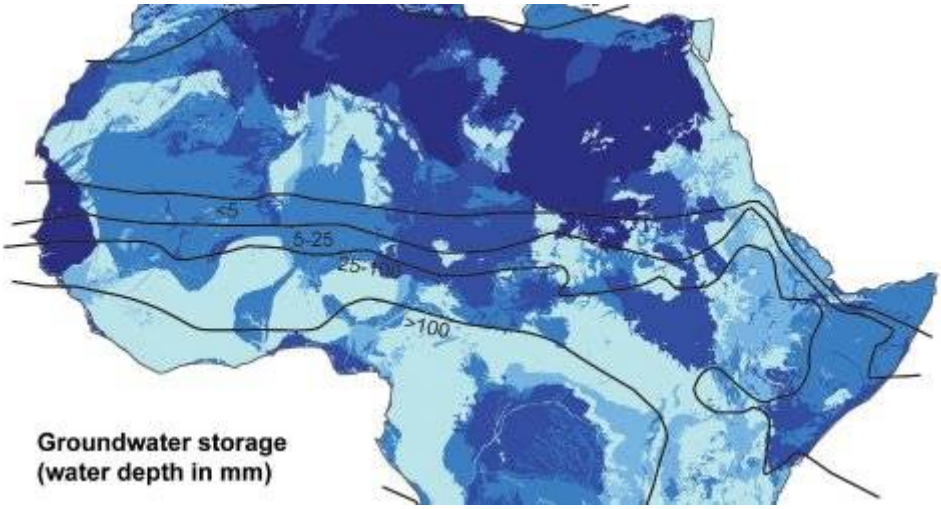
- Shortest assembling of the construction on site, reduces the period of disturbance for adjacent residents
- Pre-fabricated elements can be stored and delivered according to the work flow on the construction site
- No scaffolding, only temporary props for pre-fabricated products required

Drinking Water

Dosing of chemicals

For drinking water often is not microbiologically wholesome raw water such as Surface water or bank filtrate. Here disinfection is essential. The selection of the appropriate method to disinfect drinking water must be precisely matched to the requirements given out, to guarantee maximum safety with minimum risk disinfection disinfection by-products. In addition, local legal regulations must be observed that only certain equipment for use in the disinfection of drinking water permit

Atlas reveals huge water reserves in Africa



Africa suffers from chronic water shortages. A new map shows a way out: Under the continent almost 14,000 times stored as much water as Lake Bodensee (Germny) to plan for the development of better - simple pump could supply villages.

The cards are new, old problem: The soil of Africa store huge amounts of water, but their development is complicated and expensive. Give a hundred times more water than on the surface of the continent in the top crust, experts report to Alan MacDonald from the British Geological Survey (BGS) is now in the journal "Environmental Research Letters". They come to a total of 360,000 up to 1.75 million cubic kilometers. A best estimate they give to 660,000 cubic kilometers - that would be the 13,750-fold content of the Bodensee, or a water cube with edge length of 87 kilometers.

Great Lakes (Rwanda, Burundi, Democratic Republic of Congo)

In the future, the power comes from the sewage plant

Bacteria in sewage treatment plants can do more than just clean the waste water: You can also generate electricity and thus contribute to the energy transition.

Domestic Wastewater Treatment

Industrial Wastewater Treatment

Potable Water Treatment

Thermal Processes with Multiple Hearth Furnace

Flotation systems

We NGM offer Solutions in the following areas:

- **Centralized Wastewater Treatment Plants** - superior equipment for wastewater treatment with a wide range of well-proven and innovative HUBER products
- **Industrial Wastewater and Waste Treatment** - customized and adapted solutions with well-proven products from one source
- **Green Buildings** - complete wastewater recycling and energy recovery solutions for medium to large buildings
- **Decentralized Wastewater Treatment** - independent, customized and complete solutions for on-site wastewater treatment
- **Sewage Collection** - efficient and reliable solutions for sewers, storm tanks and rainwater treatment
- **Water Supply** - solutions for the whole range of potable water supply: treatment, storage, distribution
- **Global Water Challenges** - sustainable, adapted and affordable solutions for the closure of loops
- **Wastewater Reuse** - solutions for treatment and reuse of wastewater and of separately collected grey water
- **Heat Recovery from Wastewater** - various solutions for wastewater heat recovery
- **Sludge Treatment** -highly efficient and comprehensive solutions for the whole sector of sludge treatment, from thickening to reuse

Water Group

-drinking water
-sewage treatment plants
-waste water plants
-industrial water cleaning

We the Water Group partner from a leading European private service provider in the fields of water, technology and energy. Being located in Germany, the Group provides designing, construction and operation of engineering plants for water supply, waste water disposal, thermal waste utilisation and the generation of heat and energy. In addition to that, the Group renders professional operations- and managerial services. User Group is an affiliate enterprise to a leading international listed energy and environmental services provider from Austria, dealing in the supply of electricity, gas, heat, water, thermal waste utilisation and associated services.

Operating on an international basis, we lead numerous subsidiaries and project-offices in 14 countries or riparian states of the EU respectively. In the future, more than 15 million citizens will be supplied with our fresh water or will have their waste water treated in our plants. Moreover, we take responsibility for the technical and commercial operation of water-technological plants serving more than 3.5 million fellow citizens. Being consortial leader, co-operational partner or concessionaire we contribute in particular by project-related BOOT-models (Build-Own-Operate-Transfer) to the compliance with EU guidelines, the assurance of services of general interest and public health care.

On the basis of our technological and commercial expertise we develop plant conceptions that take into consideration crucial criteria like environmental compatibility und sustainability with respect to longlasting operations. Being in the position of process managers, we realise both compact municipal or local industrial plants, as well as projects for European metropolises and their large industry. Applying latest technology and creative services we generate project specific optimised solutions with respect to energy consumption, utilisation of resources and investment costs. Sustainable operation in favour of our environment. For the benefit of man, for the benefit of nature

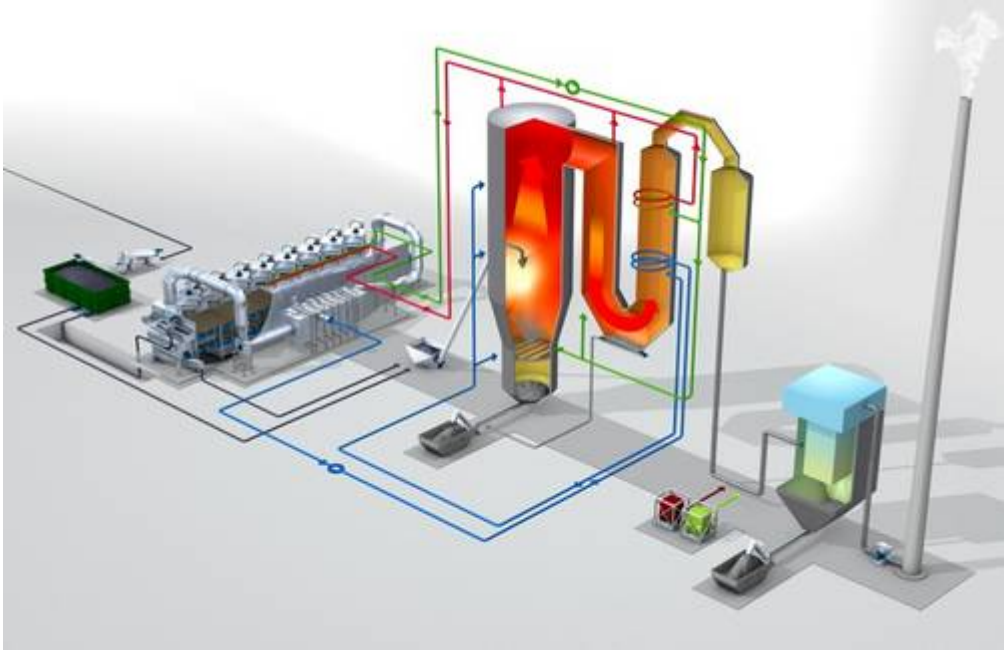
Energy Demand

We take on responsibility for the society: the sensible use of energy and the implementation of renewable sources of energy are the main columns of our activities. This way, environmental targets like the reduction of CO_2 and optimal energy efficiency are at the very focus of our engagement.

By applying highly efficient aggregates we have not only succeeded in reaching our targets to the status quo, but also to reach them sustainably over the whole period of operation. The reduction and optimisation of oxygen input, the implementation of advanced technologies and procedural opportunities to feed our plants offer the possibility to achieve further synergies. Additionally, we are able to reduce the input of chemicals by optimising our processes. By installing appropriate process control systems and maintenance programmes, we grant a maximum of care for our plants. Maintenance intervals are extended and the useful lifetime of aggregates can be prolonged, too. Compact plants, lamella and membrane technology improve the efficiency of our plants and provide, even in the planning phase, the opportunity for minimised tanks and a reduction of space required which directly contributes to protecting the environment.

On the other hand we are well aware that the production of potable water, in particular in sea water desalination plants, comes along with a high demand on energy, a fact that we have to observe critically. Due to water shortages in the Mediterranean area, however, there is no alternative available that could replace desalination. That is why we concentrate our efforts on installing the most efficient plant technology there and to permanently improve it during operations. Our engineers have succeeded in projecting a concept for sea water desalination which will produce potable water economically. High energy demand means costs. Money that we and our clients could invest into further environmental projects and into research. The challenges to actively support climate protection are unabatedly high. We contribute to solutions every day.

Decentralised Sewage Sludge Utilisation for Production of Thermal and Electric Energy

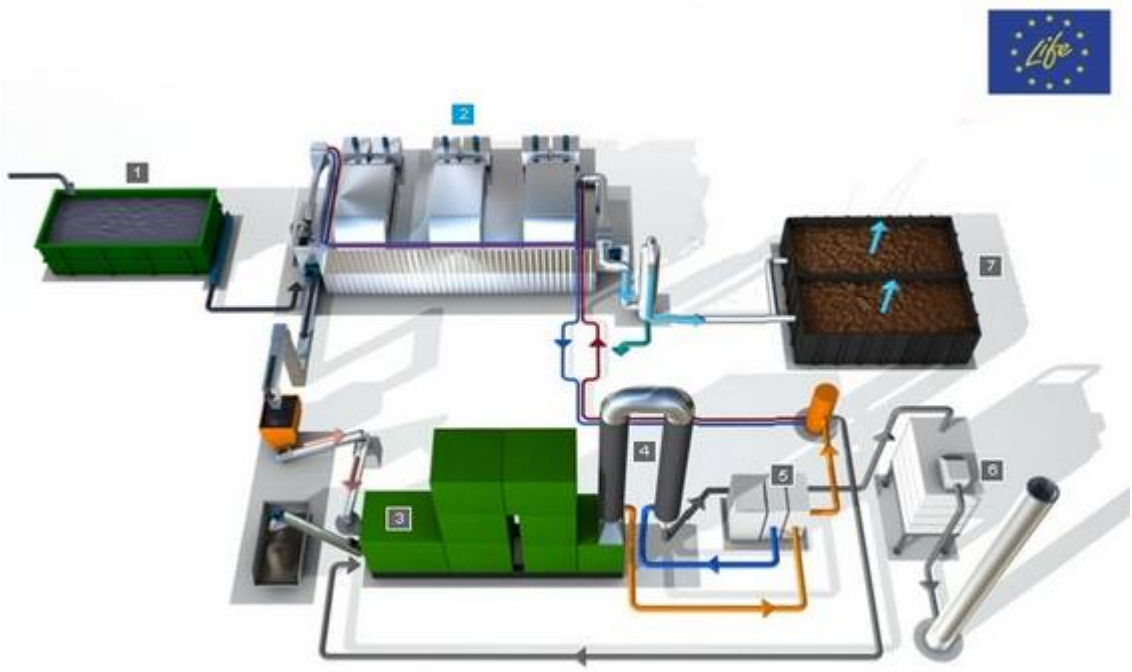


We have developed our innovative sludge2energy to utilize sewage sludge by an energy self-sufficient method. The process thermally utilizes sewage sludge (at the wastewater treatment plant) by incineration. Co-generated power and heat are used for dryer operation.

Other municipal waste, such as yard and park waste, screenings and compost residues, can be co-incinerated with dried sludge.

Our innovative process is a solution for sustainable waste management. The first large-scale system is installed at the wastewater treatment plant of the Bavarian city Straubing. This system's capacity is 3,000 dry metric tons per year. The project is supported with grants by the EU within the framework of Environmental Program EU LIFE06.

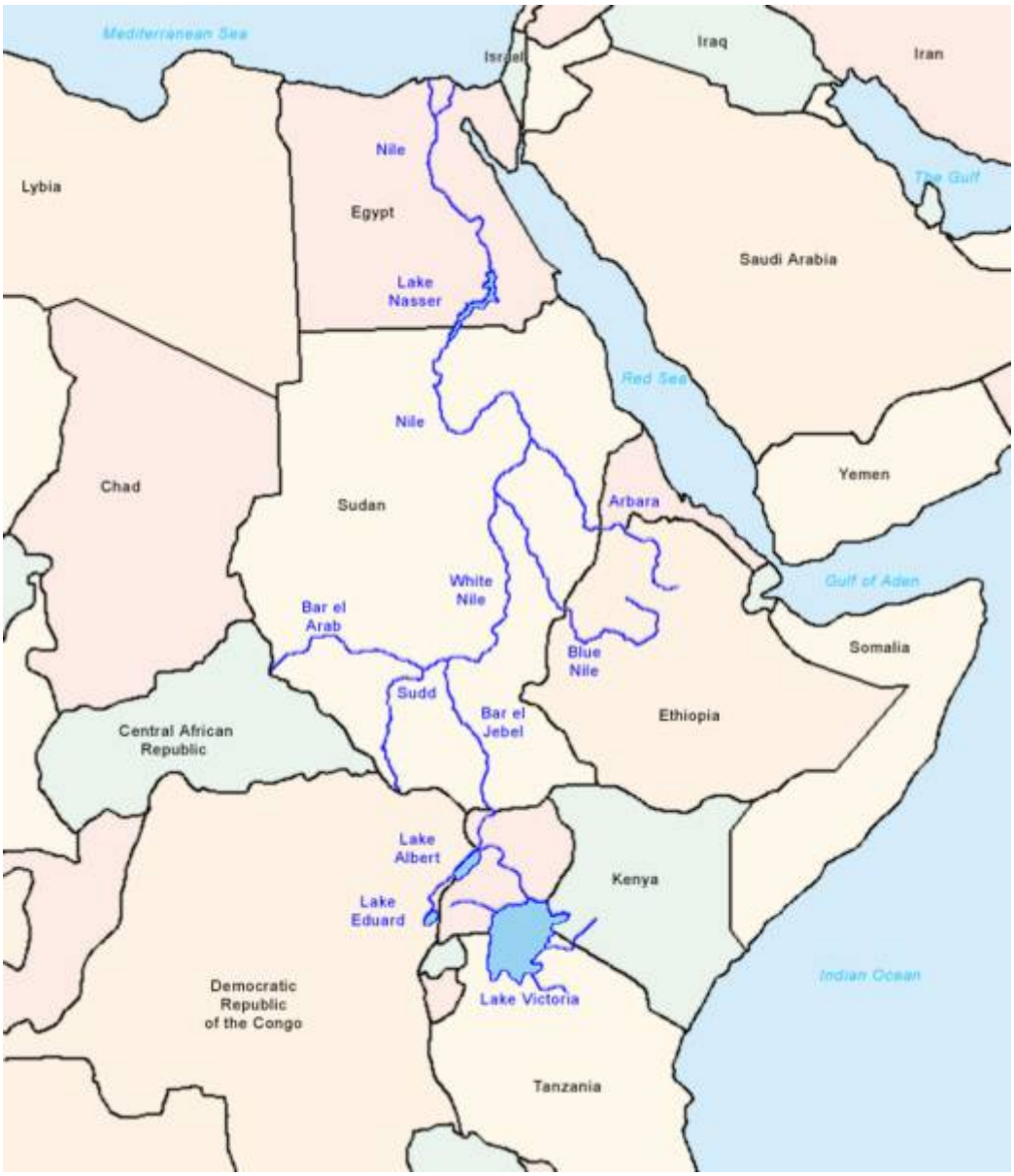
Sludge mass is reduced by energetically self-sufficient drying and incineration to about 10 %. The remaining ash shall be deposited on a separate site, thus permitting later recovery of its phosphorus content.



The Systems Concept

1 Feed of dewatered sludge
2 Our technology
3 Grate furnace incineration
4 Exhaust air heat exchanger
5 Micro gas turbine: power generation
6 Exhaust gas cleaning from incineration
7 Exhaust air treatment from belt dryer

urgent needs of our technology.
build, clean water, energy
Africa, Asia, China, India, South America, Russia

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Kuwait
Bahrain
Katar
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Saudi
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Libyen
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West-
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Mauretanien
Mali
Niger
Tschad
Sudan
Kap Verde
Senegal
Gambia
Burkina
Faso
Guinea Bissau
Guinea
Sierra
Leone
Elfenbein-
küste
Ghana
Togo
Benin
Nigeria
Liberia
Golf von Guinea
Äquatorial-
guinea
São Tomé &
Príncipe
Kamerun
Zentral-
afrikanische Rep.
Südsudan
Äthiopien
Somalia
Uganda
Kenia
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Sambia
Komoren
Madagaskar
St. Helena
Namibia
Simbabwe
Mosambik
Kanal von Mosambik
Mauritius
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Swaziland
Lesotho
Südafrika
INDISCHER
OZEAN
Kap der
Guten Hoffnung
Tristan da Cunha (GB)


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Kenia
Viktoriasee
Bukoba
Musoma
Ruanda
Mwanza
Serengeti
Nationalpark
Natron-
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Kilimanjaro
Moshi
Arusha
Burundi
Malagarasi
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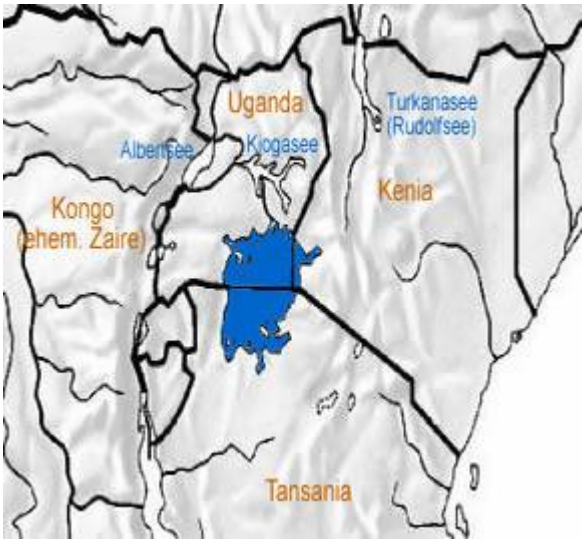
Uganda
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(Rudolfsee)
Albertsee
Kiogasee
Kenia
Kongo
(ehem. Zaire)
Tansania


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Albert-Nil
Gulu
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REPUBLIK
KONGO
Victoria-Nil
Lira
Kwania-See
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Kioga-See
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Fort Portal
KAMPALA
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KENIA
Margherita
Peak
Äquator
Entebbe
George-See
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Victoria-See
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Garissa
Victoria
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NAIROBI
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Sibiria / Russia


(Kreis der Czukczen)
(Kreis der Korjaken)
Magadan
Kamczatka
Rep. Sacha („Jakutien")
(Kreis der Tamyr)
(Kreis der Ewenken)
Kreis der Jamal-Nenzen
Kreis der Chanten u. Mansen
Swerd-lowsk
Tjumen
Kurgan
Tomsk
Krasnojarsk
Irkutsk
Rep. Burjatien
Region Transbaikalien
Amur
Chabarowsk
Sachalin
Jüdisches Gebiet
Primorje
Rep. Tuwa
RC = Republik Czakassien
Der kyrillische Buchstabe Ч ([tʃ], „tsch") ist mit cz wiedergegeben.

Klick die Karte an...

Green Energy
photovoltaic systems

Photovoltaic power generation technology is strongest in Germany

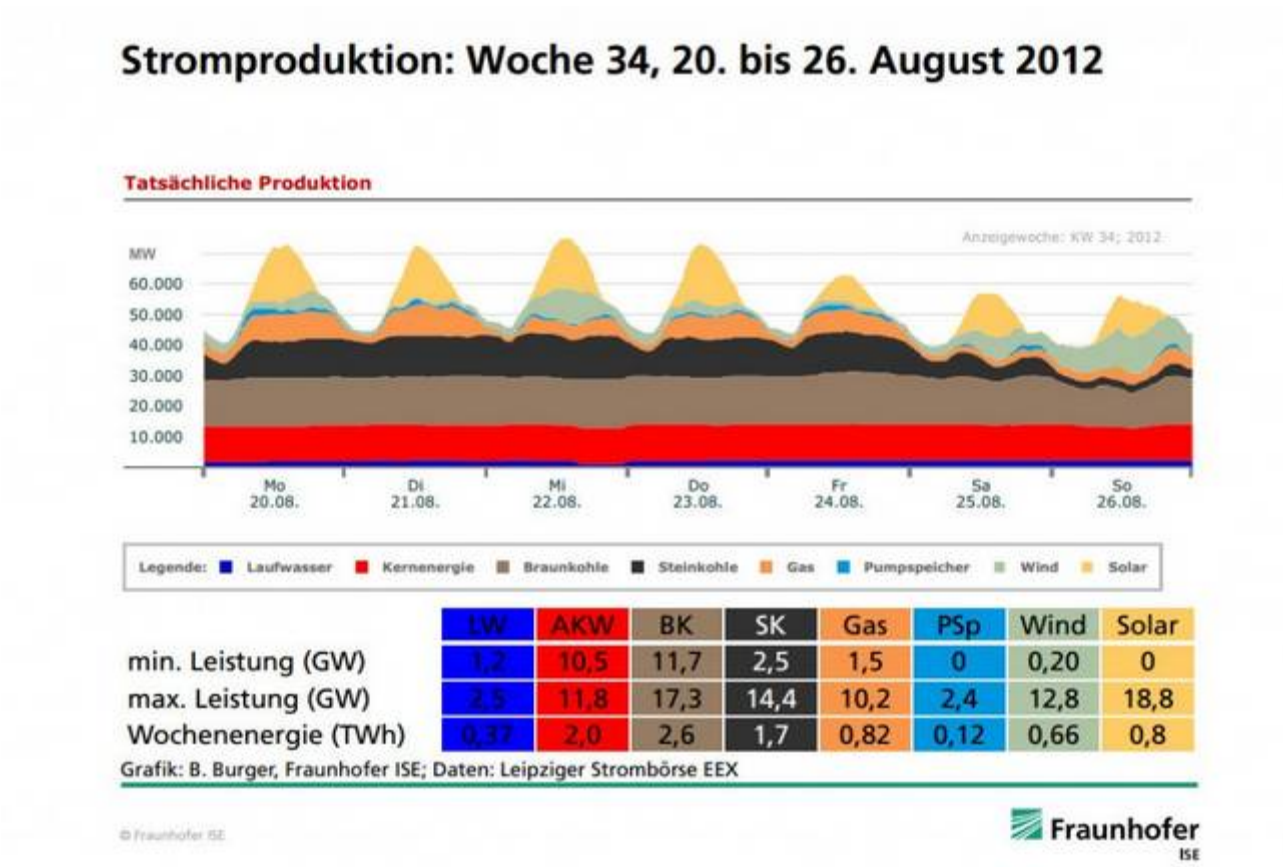
Since August of this year has surpassed the conventional photovoltaic power plants of installed capacity. According to the Fraunhofer Institute for Solar Energy Systems ISE, the photovoltaic power generation is therefore the most powerful technology in Germany

The actual power fed into the grid solar power is due to local weather conditions naturally lower than the installed capacity. The maximum power of the PV reached in May 2012 with just over 22 GW.

The exact figures for the installed capacity of power plants, according to the Federal Network Agency list of 9 August 2012:

Photovoltaics: 29.887 gigawatts
Wind Total: 28.859 gigawatts
Wind onshore: 28.771 gigawatts
Offshore wind: 0,188 gigawatt

Germany photovoltaics is the strongest with 30 gigawatt power generation technology



	LW	AKW	BK	SK	Gas	PSp	Wind	Solar
min. Leistung (GW)	1,2	10,5	11,7	2,5	1,5	0	0,20	0
max. Leistung (GW)	2,5	11,8	17,3	14,4	10,2	2,4	12,8	18,8
Wochenenergie (TWh)	0,37	2,0	2,6	1,7	0,82	0,12	0,66	0,8

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