



Land





Halls



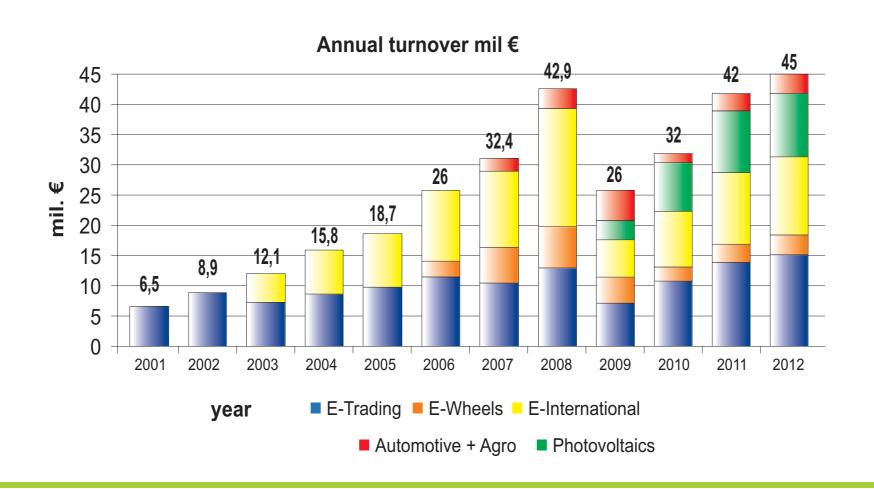


Family houses



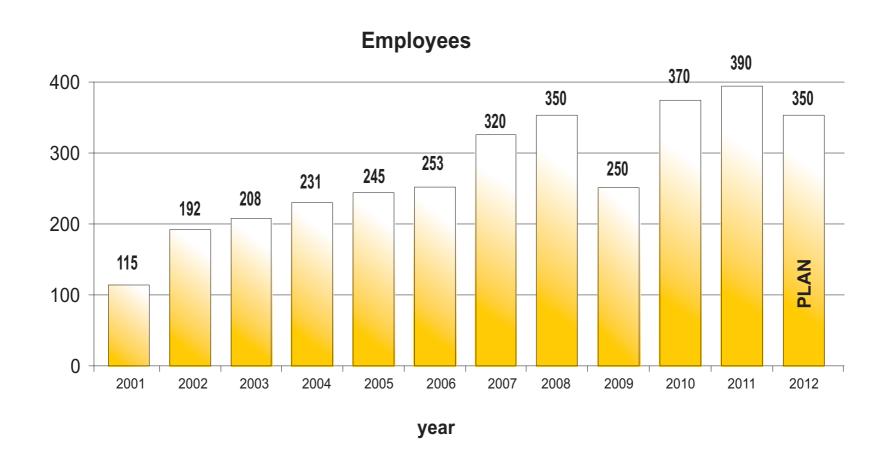


Turnover





Employees





Effectiveness

Photovoltaic reducing the burden of CO₂ emissions

A photovoltaic system (PV-system) converts solar radiation directly into electricity. This electric current is led to the public networks. Each kilowatthour produced such does not have to be generated in classic power plant. PV-system reduces the consumption of coal and gas and thus the production of CO_2 emissions because the electrical current in Europe is mostly obtained by burning of fossil fuels..

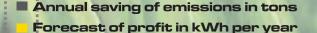
Besides the PV- current is valuable as equalizing current at the time of consumption peak – during high consumption of electric energy (at noon) PV-system produces the highest profit.

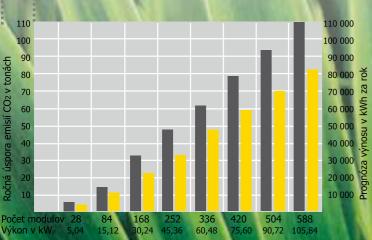
Photovoltaic device of 5kWp produce according to place, alignment and inclination approx. 4000 to 5000 kWh of electric energy per year. That coresponds to approx. 100% of current consumption for family of four or to reduction of CO₂ by 2200 kg/year.

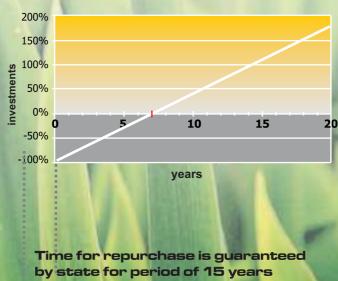
At various power stations is created about $\,$ 0.59 kg of greenhouse gas CO2 per generated kilowatt hour of energy, in contrast to 40 g / kWh with photovoltaic equipment.

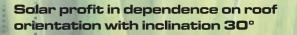
The Act about preferred connection of green energy No. 309/2009 and Decree of the Office for Network Industries of 10 June 2009 No.2/2009 - 1kW performance information according to type of used photovoltaic panels carrier can be found on the web server PVGIS:

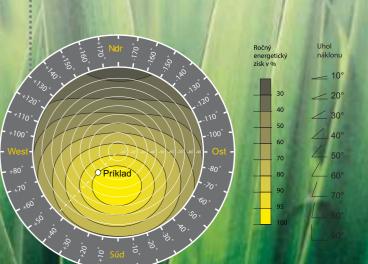
Http://re.jrc.ec.europa.eu/pvgis/apps/radmonth.php?lang=sk &map=europe





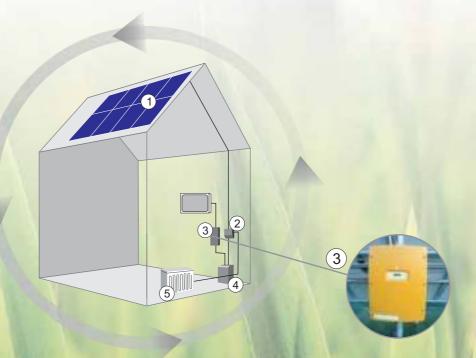






System types





PV-insular systems for self-supply

PV-insular systems provide self-sufficient supply of electricity.

It is also possible to use the electrical current from the PV-system with an adequate dimension of system for self supply. Direct current from the PV-module is for this purpose powered by charging governor to the accumulating batteries. This current is converted in insular invertor for standard 230V devices. Special devices for direct current as lamps, refrigerators or radio could be powered directly by this current.

PV-system linked with distribution network

Most owners of PV-systems system supply produced solar electricity to public distribution networks - whereby benefit from attractive payments for each delivered kWh of solar electricity.

Solar electricity is produced by photovoltaic modules - that is direct current. This current is convert in invertor to alternating voltage 230 V.

Supply electrometer registers the number of kWh that go to public distribution networks. Electricity for self-supply in households is taken form network through consuption electrometer.

Functional description of solar cell

1. Energy conversion

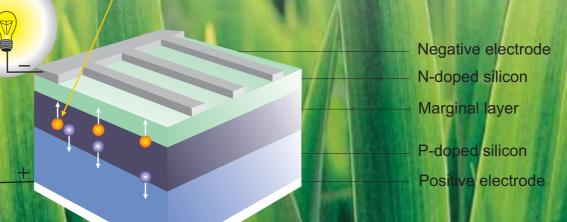
When light falls on photovoltaic moduls electrons release. Positive or negative charge carriers gather on electric contacts and direct voltage arises.

2. Current fluctuation

Direct voltage formed from solar generator transforms convertor to network-equal alternate current (voltage 230V at 50Hz).

3. Energy utilisation

In contrast to insular system where the solar energy must be cumulated in accumulators, network interconnections of solar devices supply the energy directly to public supply network. In case of network supply is inserted a special electromer.



Return on onvestment

1 + 1 = 7

1 kW POWER = 2700 € **INVESTMENT** OF AVERAGE TECHNOLOGY

1 kW POWER = 3170 € **INVESTMENT** OF TOP TECHNOLOGY

PVGIS 970 kW/year - 1370 kW/year

PROFIT 1 kW OF POWER/YEAR FOR AVERAGE TECHNOLOGY 570 €/YEAR

PROFIT 1 kW OF POWER/YEAR FOR TOP TECHNOLOGY

700 €/YEAR

RETURN OF INVESTMENT FROM 4 TO 7 YEARS

Solar energy source

On area of Slovakia yearly falls severalfold more of energy that we are able to use.

The sun is an inexhaustible but also ecological energy source.

And the best is: it shines for free.

Preconfiguration
Atractive design
Ecological production
Reliable delivery times
Tests and certificates
Safety
Universal fitting
Warranty
Simple mounting



Photovoltaic modules

SUNPOWER

Mono Crystalline 45x798x1559





Poly Crystalline 40x993x1660





Amorphous 6x635x1245

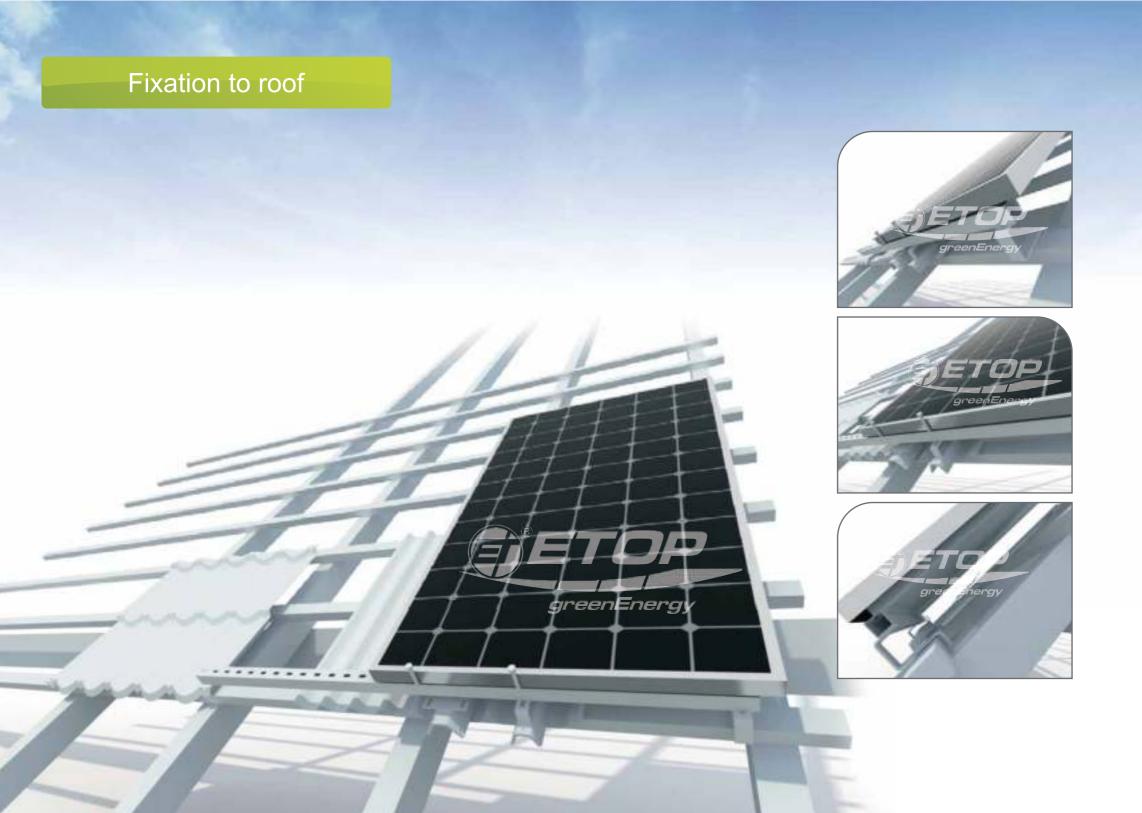




Poly Crystalline 50x1650x990









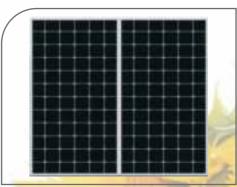












1606x1560

Sunflower 4S Evening 18:00 summer 1606x3120



Garage G2







Components for roof cells

♦ HOLDER



- ◆ PERFORATED COMPONENT 40x40x2 60x60x2
- ♦ HOLDER
- **♦** SCREW













◆ **SUN POWER** 45x798x1559



♦ YINGLI SOLAR 50x1650x990







STANDS FOR SOLAR CELLS

Fixed **SOLAR STATIK L 18** 20°/4692x4813



Tracker **SUNFLOWERS 12** 30°/4860x3230



Sunflower 25 1606x1560



Sunflower 4S

1606x3120

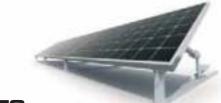
ROOF STANDS FOR SOLAR CELLS

Fixed ROOF

Inclinable ROOF



Inclinable **ROOF PEDAL**



GARAGES WITH SOLAR CELLS

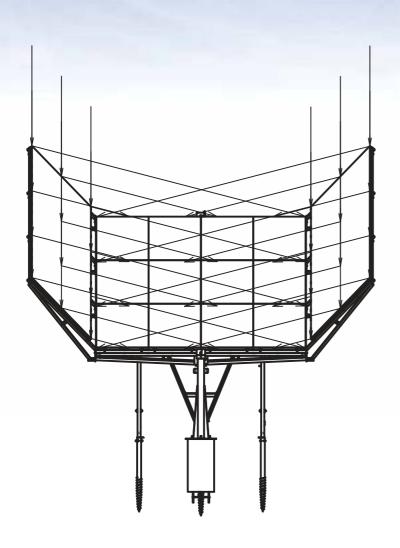


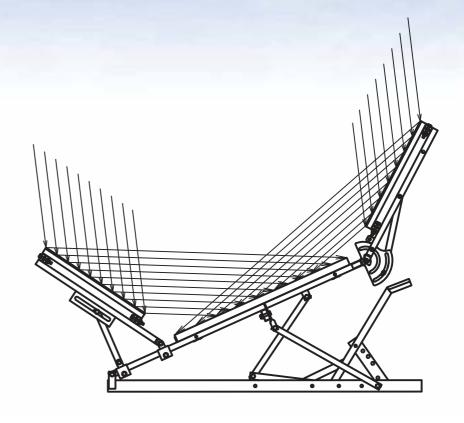
Tracker



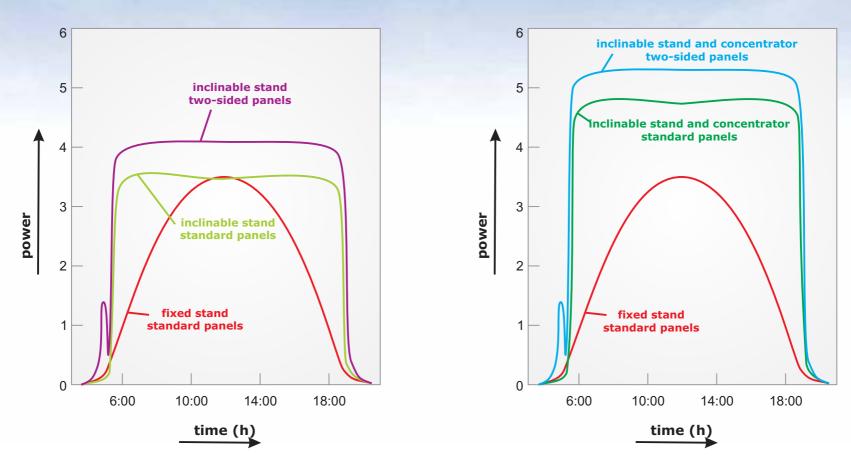


Concentration & mirrors





Graph of efficiency



Idealized relation of immediate output made by PV systems of different construction





Technický skúšobný ústav Piešťany, 8. p. CERTITECH - akreditovaný certifikačný orgán systémov manatárstva



registración bleio: 18-245034-06

Horsen potentiage, Se



ETOP - TRADING, a. s.

Strederická cesta 1823, 020-01. Púchov

má zavedený, umiliavaný a funkčný systém manažánstva kvatty, ktorý splik STN EN ISO 9001:2001 / EN ISO 9001:2000

Kovovýroba, gumovýroba, logistika diskov a j

Platrowt swrtflkátu do 31, 85, 2017.









Phokling 21.06.2009



TREMPERSY SETTIONNY CREAN PRESEASY, A.p., Roullocks some DOS



CERTIFIKAT CERTIFICATE Z. / No. 9955/104/1/2009 re-life by thought

Spinish billian too finding by medicine without again and against his defect, take one within

Trabada printer tree Paties (p. provided Sephania Bull for product aggresses to 1000 total trace to confine

Negles an animal proofs MIR, AR (M.L. eys \$15-71816)

Start for value power SAN, AM 18 E, type 8 2-71828.

FIGHT TRANSPORCE, Residentia 1823, 820-01 Parison, Morentia republic

100 Course by No. INSMESS

ESCIP TRADESC e.e., Sectionists (NEX, 400 to Parker, Seconda regald)

Their combines is providing their thereof a charles stocke to be built for pr The complete confine the completes of the product decommence will the technical

APPLIES ARREST THREE PARTY AND ADDRESS.

South Course I. 2007 STF parallel No. 2007 Souther Stellar No. 2007 STF of Asso JR, 2007

Cycledia debita a come a disale risersoni eramente ripolita e molacitipa politale provided to below the second company of the company

The next result and fluidings of the compliance of the type alternative sort the makes. Assert the territories of the sorter.



DECEMBER SALDERS COLAR PROPERTY, No. 10 April 100 PROPERTY OF DECEMBER 100 PROPERTY AND PROPERTY OF THE PROPER





CERTIFIKAT CERTIFICATE

E. / No. 0043/104/1/2009 in-dia/of 25.05.2009

Technolis Holder) man Patriers, La., abrollerses antificated reple certificate registrated bids 4997 918, spilling some contribut Districtly destroy data Platfors, 5.p., available Confidence that for product used legislation to 2007-000 beauty destroyed.

Tingue on college pearly. NAME APACE NOW AND THE, NO. 279-11025

Built for ratio point : POLDENC NOLAR SEL tree ES-71822

\$707 ThatSNG as, brokenski HDL 60 St Parker, Seconda republika / I

900 Corpus Reg. by Scientist

Mitching / Mingdonesia

ETIT TRADUNCAS, Serviceira 2003, 600 St Parket, Germania equations //

E) was constituted to part of tags shorts interested positionly operation and bank (the particular

The complete continue de completes of the product decreases to with the technical regar

- STY EN 1986 2 SWILLTOWN

Beauty operand. Telephone works to a year Station and not No. 1989; 1979 of Sang VE. 2000

Franchis (State & State of Authorization Control of State of Control of State of Control of Co

provided in Wilson's an abs 14 ht 2009

The national and Helipp of the completion of the type characteristic with the neckated by Report the Helippin Completion of the public of the completion of



Sep Assected Freshot Controls is

TECHNICKS SKESSISSIS ENTAY PRESEASY, E.A., Responds onto 2009, 921 HE Posting





CERTIFIKĀT CERTIFICATE E./ No. 0095/1847/2009 sedder of 19,642009

Turbolis desires con Fortas, 15. desilences conflicted experientistics credits; expende con 600 Folk, systemate conflict.

Forbids makes and Parling Ly, available September Bully for product or Planton with regarded to 1997 told make the complete.

Visited / Plantail Nation to relieve penels NOCAR IN L. top ET-71830

Rock for rate passed SISE, 68 78 8, type 819-71838.

STOP IN LICEN. a.s., Strettmink 1823, 829 St Philory. Shromaka republika "Street Republic

ICC Committee by the Name of

ETOF TRACENG a.s., Sonkascká HES, Kit H. Factor, Sierowká republika / Sirval Aquálic

From management percentage dends frammed productive profits a technologic perhate have

This prophose confirms the completions of the product observations; sold the technical represented thank the

- CONTRACTOR OF THE PERSON NAMED IN

Named Courts V. David STP as the Disk Stew State of Section For 1989 109 of New Ch. 2009

Transition stated a common death of second production of problems or death and participated perfections or a resident - projekting 1, William I I you didn't \$100, 2009

The new result and Statings of the complement of the special community and the publical regularization found in August the Statistics of June 12, 1888.







Zertifikat Certificate

Date Freign Tossens (Samuel) Dirtor

Cata Energy Systems (Streetle a.m. Franciscos ellichi 279-71 Subreas for Villano

MES-BURNAC

Web 2304

Head, Tiblide.

230Voc. Sphere 50Vo.

*ini

States Incomber

Francis Violings

Repair surrent.

Color intage

Calling to have

Enuise Da Product type Modelli Model Santongi

Saltonegowsky Serthana Med

BIT CORRECT DISE OF EMPIRE WHILE THE BITS DESCRIPTION OF THE PROPERTY OF THE P

SECTION AND ADDRESS OF THE PARTY OF THE PART

bigum for partiflage for 40.079

Military Str.

44.61,046 . History bear DATE AND



AN EAST Proper become Could Name and Add matt Tetrate



Zertifikat Certificate

Delta Energy System (Germany) Gedett D-59494 Sonet

Della Diactronica (Biovakia) s.r.o. Prompsehá ulca 4605/1 01851 Dubelos red Yahom Slovet Republic

Produkt Typ: **Bular Inverter**

\$12566

Physical type Modeli

Antregelielle

Manufacture:

Applicant

Model Lebrury: **Platings**:

Extraorquosident Cartification Wark

lique: 130-430 Vol. max. 540 Vol. max. Output: 210 Vac. 50 Hz. max 13.6 A. 2500

DIN EN SCYTE 1988, WC 52153-1 2053, weter

requirements of shaft RLC 60106-1-2000 and d Distribution 2 IEC 80900-1,2008 and EN 90900-1,2008.

the second set the second set of the second Bericht Mr. BFT140221

Maport No. **Excellinat No.** Certificate No.

Debuty Assumed:

88-179 18.08-2006



GCMig Ne

VMST until





Zortifikat Certificate

Priempeeind ultra 450011

G1881 Dubroice rued Valores

Coasserveg 4/5

D-59494 Books

Sinvek Republic

Solar Inverter

915000

Delta Brergy System (Germany) C

Delta Electroreus (Slovakia) s.r.o-

Antragaletter Applicant

Hursteller. Mary Sections:

Produkt Typ: Product have: Modeli

Model **Laleitang**

Ratings:

Nome

Standard

Input: 150-450 Vdr. max. 540 Vdv. Output 230 Vec. 50 Hz, max 22.0 A

Zulessungszeichen Certification Mark

DIN EN 80178 1888, IEC 82103-1-2007 requirements of druff IEC 62166-1-2003 IEC 80090-1-2000 and EN 90050-1-200

the Advances in Schulet and Inschill the Spile : and county off the opposite of the Spile : 07TH0223

Bericht Nr. Majoret No. Zerttführt Nr.

00-119 Certificate No.:

30.09.2008 Gülfig bis: VMM write:

Zetffebrungsstelle Corthopton Department







Certificate

Registration No.: Q 87019384

SurPover Corporation Schillery fire Street Ser Jree, CA 95154

Manufacturing Plant
SurPrison: Professional HRp Jon
Lot 1 Sto Sale Nam Arts. Tol
Lapone Freihrepen. SEE, Prison V.
Salesregey Lone, Selen, Lejson, Selet

Report No.: 21200034

PV Module PV MOCAN

Type: Strain Typical Monatos

DVR 200 servit a Strain 200 word a

Black 72 Cut Westure

599, 010-01, 81 599, 210-01, A1 599, 010-01, 81 599, 210-01, A1 599, 010-01, 81 599, 210-01, A1 599, 150-01, 61 599, 120-01, A1 599, 150-01, 61 599, 120-01, A1

Basic.

C SC STR-138H Their action (PV) receive sales



- Qualities, 600 81218
- · Sufely below.
- · Petids Insente

The STATE AND ADDRESS OF THE PROPERTY OF THE P

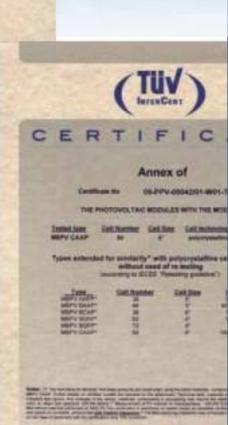
Completed that it consists the entire to be a second registration over the part of the design, common, and interesting the design of the second over the common over the commo

Cologra, 31 No. 2007

TO Restard Francisco Step Steps. An Death Step. Self-12 Steps.







INTERCENT

ASSESSMENT OF REAL PROPERTY.



nnova Product Service GmbH

FIRST Karbone

Konformitärs-Zertifikut Conflicate of conformity

Zertiffkatsishaber: Holder of Carollinas: Motta Energy Systems (Gerra Technologyade, 21 79151 Trialegen

Hersteller: Manufacturer:

Stella Easings Ventions (Novaki Tremslandon 19 SK - 01851 Nava Debette

Produkt Typ: Prindle f ogen:

Mindel

Zulamungszeichen: Condinatos Mark:

German

Solar Inverter SI 330



Reprisonative Transcore des o. g. Modell-Riche bossed The communities from Europeins of phone paperd models passed

Solve browler

North Rechteverschrift: Standard Lowthis issues a production between makes DREAD'T REC ACTIVE 1 2003

and networkless due Andreitenagen des Geriter in Produktivis and are completely to the requirements of the Epoperate and Pro-

90873614

Berfelet Nev Report No.:

inc. 4 lst. Zertiffikat Net

Contificate No:

912



nnova Product Service GmbH

midde.

THE LANGESTIN

Konformitäts-Zertifikat. Certificate of conformity

Zertifficat No. Compliant No.

Reinge:

Japan Yahasi, USA STATUS. Stated countries States, 199,649. Heiged Yollego: YM-JYFfree, 2000. Change comment from \$7.00.0 Chapter power STATES

ET Shader See

Cheese Zortellian has your fallingball was I debone at Assemblinguisture. Ending von Ott-Zurtrötumn regeln.

The Continue is railed for A pours from date of loose. The manufacturers in subject to regarde production requestion (at least 15-page). However, (MARCO S. Her inside of the page of the following of the page of the pa of withdrawer of Compliance

Zeriffahrstelle / Confication elpartmost: Hont Dang



Middle Slovakia



2x1MW, contructions FIX 18 panel, JULI MODULE 220 Wp polycrystal



Middle Slovakia



3x 1 MWp FIX 9 Panel polycrystal SUNTECH 280W



Middle Slovakia



3x 1 Mwp construction FIX 9 PANEL Polycrystal SUNTECH 280W









Three kinds of notifications:

Web interface

SMS



E-mail

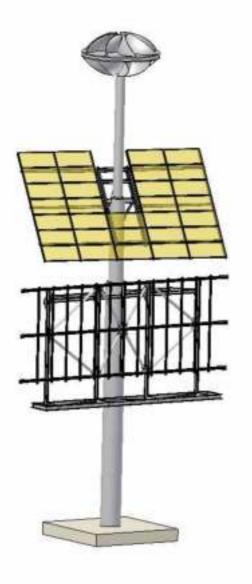






Energy cogeneration

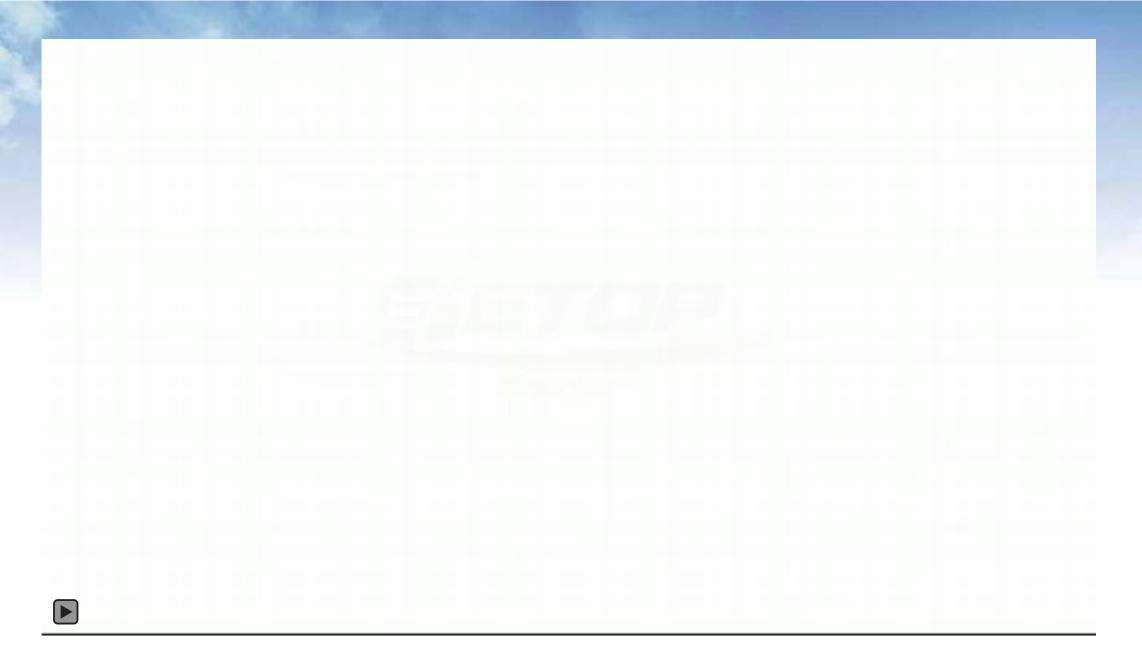
Sun + wind



Air turbine

PV panel









Presentation of assembly wheels

logistiC equipment ® wheel and tyre assembly ® rubber & metal production ® automotive parts





Logistic centre

Logistic centre Horovce



Home company Púchov



TOP Group





























































www.etop.sk etop@etop.sk

Reference

ALCOA WHEELS

AUDI

AVIA - Ashok Levland BARUM CONTINENTAL

BENTELER

BMW

CADENCE INNOVATION

CONTINENTAL

FLUID

GOOD YEAR

HAYES - LEMMERZ

WHEELS INDIA

JANTSA

KRAVTEX

KIA MOTORS

MATADOR

 $M\Delta Z$

MAZ-MAN

MICHELIN

MITAS

PIRELLI

PORSCHE

PSA PEUGEOT CITROËN

ŠKODA AUTO

TVM Maribor

VOLKSWAGEN





Assembly wheels

Assembly of complete wheels

ETOP Trading, a.s. supplies JIT mounted complete wheels to:

- PSA Peugeot Citroën
- ▶ AVIA
- ▶ CIMOS
- ▶ MAZ
- SOR Libchavy











- 1 550 000 pcs of wheels / year for cars and trailers
- > 35 000 pcs of wheels / year for trucks, buses and tractors

ETOP Group



ETOP - wheels assembly

Assembly line for trucks wheels





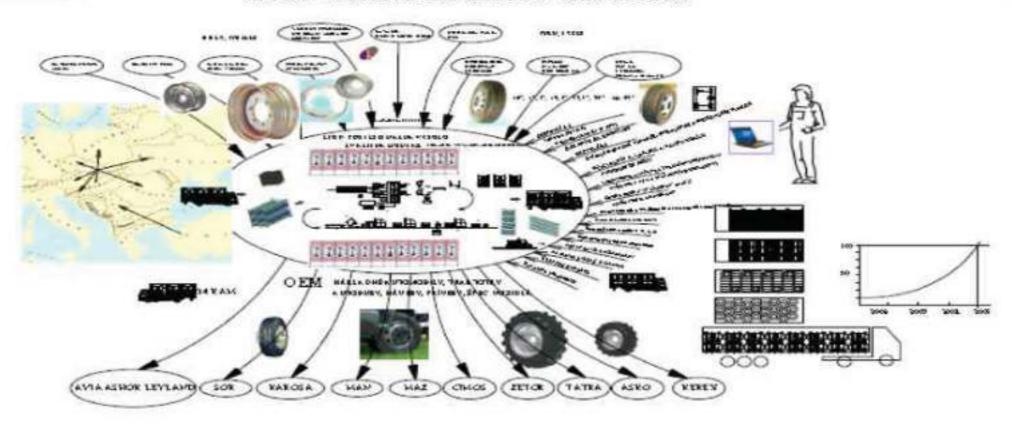




ETOP – wheels assembly

Fitting logistic centre

ETOP- FITING LOGISTIC CENTRUM



www.etop.sk etop@etop.sk



Logistic equipment ETOP

M2003 rack















