

TE CONSULTING 



# TE CONSULTING / DIRK JUNGHANS

**Technology, Environment, Digitalisation, Real Estate**

## Introduction

# TE CONSULTING



*thinking solar*

## Dirk Junghans

Date of birth: 21 December 1966

Education: TU Berlin, Germany

Electrical Installer (VET Diploma)

Technical environmental protection (Dipl.-Ing.)

MEI, Moscow, Energy Technology (Bachelor)

Milton Keynes, England (MBA)

Experience: renewable energy

Planning, installation & operation

Measurement & billing services

Nationality: Swiss & German citizen





# Agenda





# Agenda

INTRODUCTION



CONSULTING



SERVICE



CONTRACTING



SYSTEM





## Vision

Solar drives my thoughts and my actions alike, and we have interesting, digital, renewable and solar solutions for you. Take a look and stay curious - we look forward to your ideas and suggestions.





## Mission

### Digital billing and visualisation for modern real estate

Through the intelligent integration of photovoltaic, heat and storage systems, we enable real estate to be managed efficiently, economically and sustainably. Thanks to our automated billing and visualisation solutions for electricity, heat, water, e-mobility and battery storage, we create transparency for owners and residents - both now and in the future.

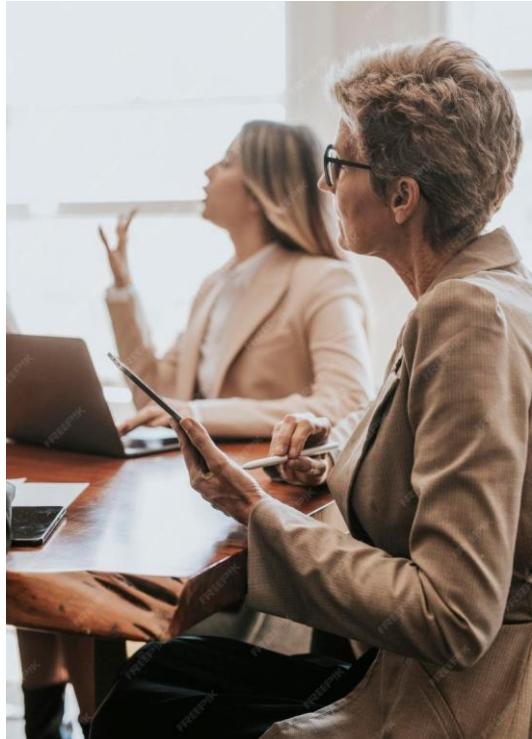
TE Consulting / Dirk Junghans is independent of energy suppliers, banks, component manufacturers and installation companies. As an owner-managed, small and flexible company, we transparently highlight the financial potential of the end-to-end digitisation of your buildings, properties and sites and are your partner for billing, visualisation and solar optimisation of your real estate's technical systems and equipment.

# Introduction



## Overview

### CONSULTING



### SERVICE



### CONTRACTING



### SYSTEM





# Agenda

INTRODUCTION

CONSULTING

SERVICE

CONTRACTING

SYSTEM



# Consulting

## Overview (1-2)

- Real-time data as the key to transparency and energy savings.
- Understand energy, know consumption, reduce it and optimise it in the short and long term.
- Digitise buildings (electricity, heat, hot and cold water, e-mobility, battery).
- Usefully integrate and operate photovoltaics.
- Energy savings through real-time measurement with ongoing operational optimisations.
- Profitability calculations for (virtual) self-consumption communities and local electricity communities, incl. consumption-based energy and water billing (heat & water).
- Understand the economics of photovoltaics & CO2-free heat generation (HP).
- Development and planning of contracting heating replacement projects.
- Variant comparison for heat generation & preliminary study within SIA phase 2.





# Consulting

## Overview (2-2)

- Heat pump contracting support in SIA phases 3-6.
- Detailed yield analysis of PV systems during operation.
- Efficiency determination of heat pump systems during operation.





# Agenda

INTRODUCTION

CONSULTING

SERVICE

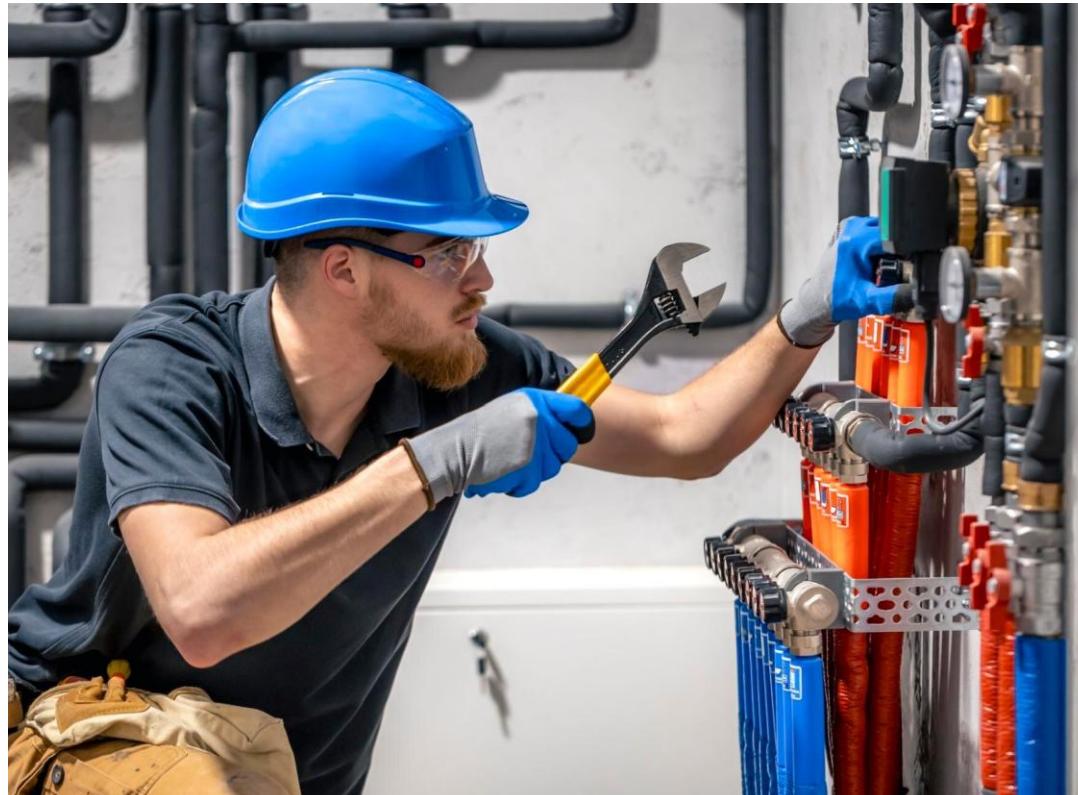
CONTRACTING

SYSTEM



## Overview

### IMPLEMENTATION



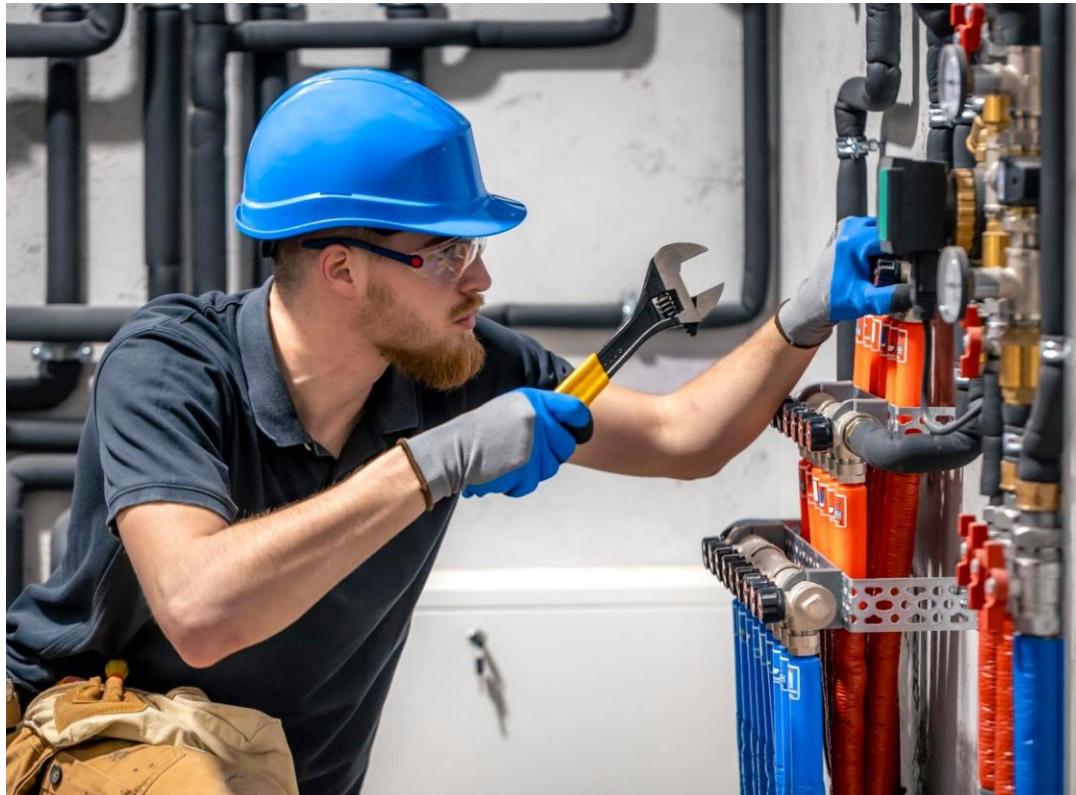
### OPERATION



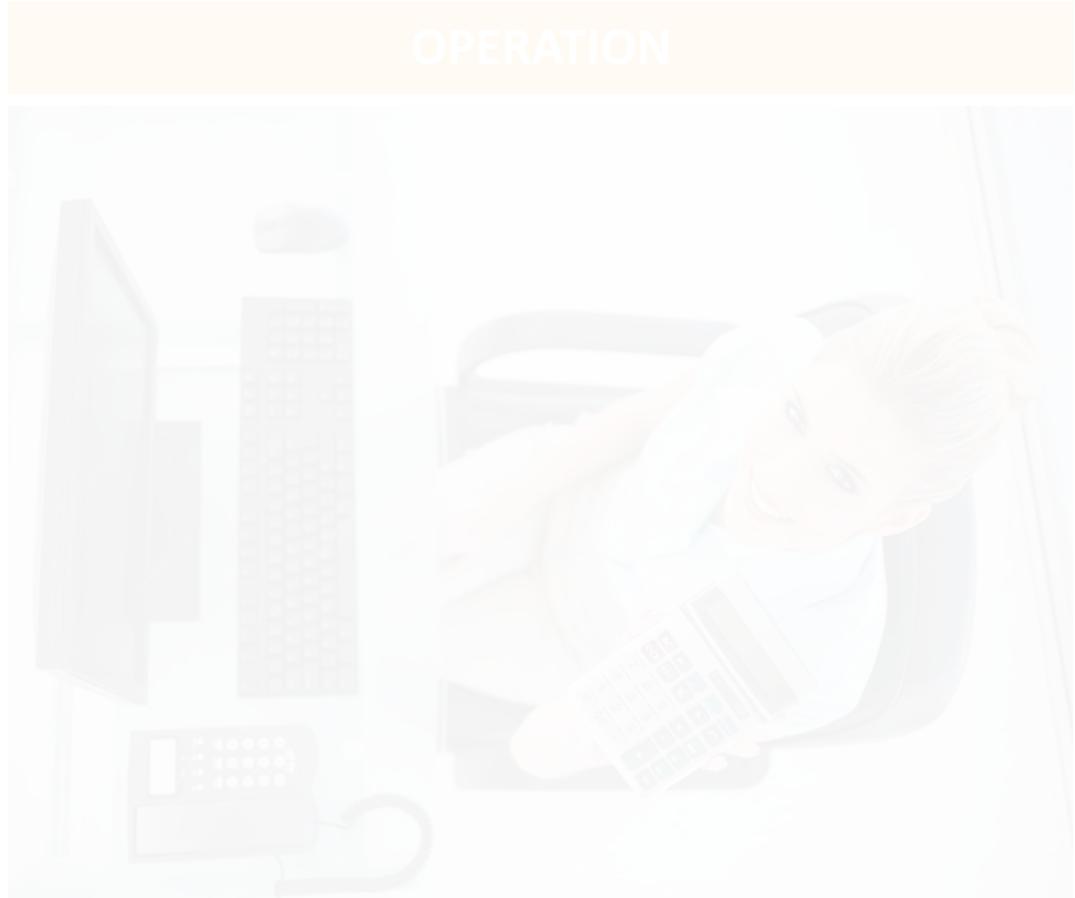


## Overview

### IMPLEMENTATION



### OPERATION



# Service / Implementation



## PLANNING, DELIVERY, CONSTRUCTION, COMMISSIONING

### • SERVICES

Planning, construction and structural implementation of digitisation projects by integrating measurement technology into your property, including project administration, coordination with energy and water suppliers, project partners, creation of installation notices, safety certificates, training for management and owners, documentation and acceptance.

### • Energy and media data recording

Planning, delivery, assembly and commissioning of the entire measurement and software infrastructure as the basis of complete, economically viable digital building infrastructure.

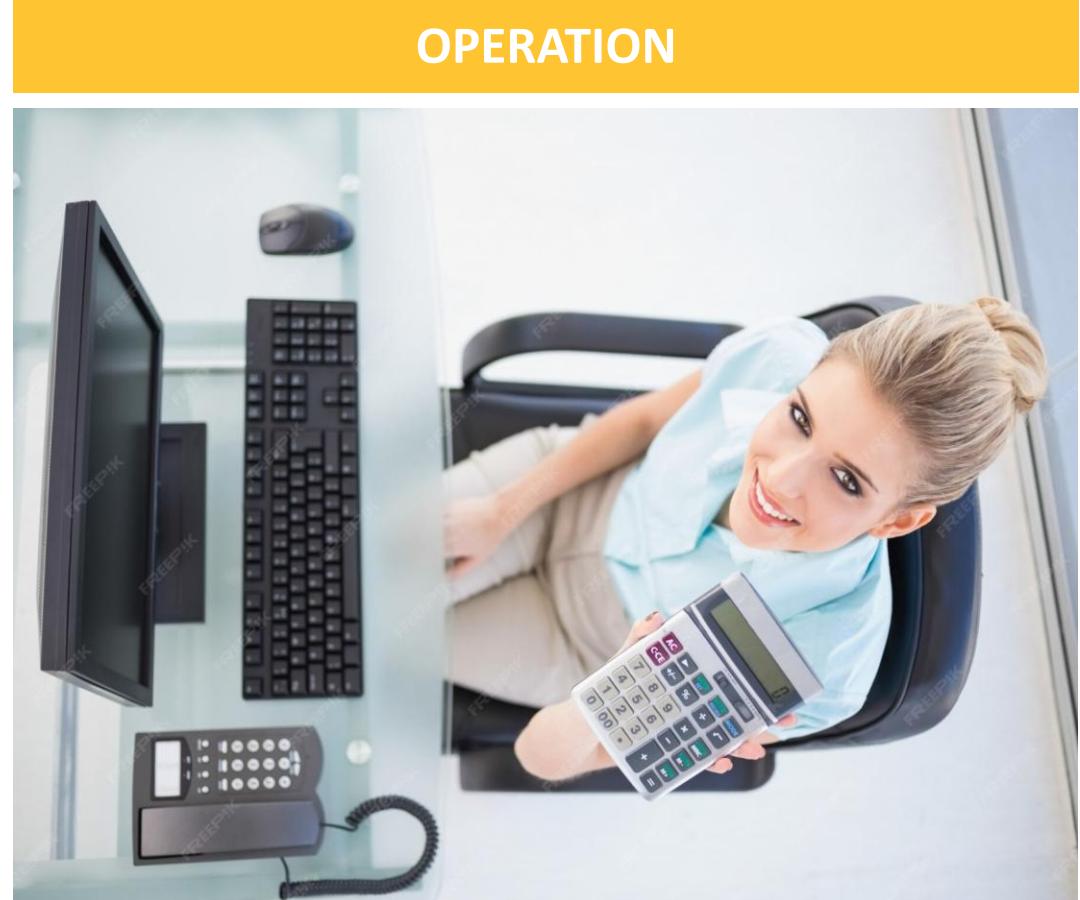
DESCRIPTION	
Added value	 Efficiency  Flexibility  Cost-effectiveness
Service	 Planning, delivery, construction  Commissioning
Insights	 Premium  Classic  Basic
Price	 Fixed  Measurement devices: rent or buy



## Overview



### IMPLEMENTATION



### OPERATION

# Service / Operation



## PREMIUM

- **Services**

Operation of your **(virtual) self-consumption communities and local electricity communities** by taking over the energy and media billing. Measurements and visualisations are based on **real-time values** for the entire property and are accessible at apartment level for all energy flows. Solar optimisation incl. load management supports you on your journey to be powered by the sun.

- **Energy and media recording**

Recording and visualisation of your data in real time on our cloud platform. The data is hosted in Switzerland for maximum security and reliability.

DESCRIPTION	
Added value	 Operation of (virtual) self-consumption communities, local electricity communities  Measurement, visualisation, billing of solar power, electricity consumption from plant, e-mobility, battery  Solar optimisation/optional
Service	 Data recording/real time  Hardware monitoring (meters & communication)  Change of tenant  Invoicing, creation & shipping  Collections
Insights	 Analytics & reporting
Price	 Fixed & variable

# Service / Operation



## CLASSIC

- **Services**

Operation of your (virtual) self-consumption communities and local electricity communities by taking over the energy billing. Measurements and visualisations are based on real-time values for the entire property and are accessible at apartment level for all energy flows. Solar optimisation including load management supports you on your journey to be powered by the sun.

- **Energy and media data recording**

Recording and visualisation of your data in real time on our cloud platform. The data is hosted in Switzerland for maximum security and reliability.

DESCRIPTION	
Added value	 Operation of (virtual) self-consumption communities, local electricity communities and consumption-based energy and water billing  Measurement, visualisation, billing of solar power, electricity consumption from plant, e-mobility, battery, heating, hot & cold water  Solar optimisation/optional
Service	 Data recording/real time  Hardware monitoring (meters & communication)  Change of tenant  Invoicing, creation & shipping
Insights	 Analytics & reporting
Price	 Fixed & variablesw

# Service / Operation



## BASIC

- **Services**

Operation of your **(virtual) self-consumption communities and local electricity communities** by taking over the energy and media billing. Measurements and visualisations are based on **quartely-hours reading** for the entire property and are accessible at apartment level for all energy flows. Solar optimisation incl. load management supports you on your journey to be powered by the sun.

- **Energy and media data recording**

Recording and visualisation of your data at 15-minute intervals on our cloud platform. The data is hosted in Switzerland for maximum security and reliability.

DESCRIPTION	
Added value	 Operation of (virtual) self-consumption communities  Billing of solar power, electricity consumption from supplier, e-mobility, battery & cold water  Solar optimisation/optional
Service	 Data collection /15 min.  Hardware monitoring (meters & communication)  Change of tenant  Invoicing, creation & shipping
Insights	 Analytics & reporting
Price	 Fixed & variable



# Agenda

INTRODUCTION

CONSULTING

SERVICE

CONTRACTING

SYSTEM

# Contracting



## Photovoltaic systems

- Contracting tenders for photovoltaics according to SIA
- Measurement with 3D-Scan- drone technology
- Engineering of the PV system to suit roof areas
- Planning T-SOL software package "Professional"
- Occupational safety during installation: integration of temporary fall protection system
- Occupational safety during operation: integration of permanent fall protection system
- Efficiency: battery vs. (virtual) self-consumption communities and local electricity communities
- Billing, visualisation and optimisation services during the contracting period by TE Consulting/Service



# Contracting



## Heating

- Real-time data as the key to transparency & savings
- Energy saving before the contracting tender
- Precise investment costs for generation vs. consumption
- Contracting tender for heat pumps according to SIA (2-6)
- Plans for a heat pump solution (SIA phase 3)
- Planning & integration of necessary grid reinforcement for HP
- Planning & integration of creation of water intake for HP
- Billing, visualisation and optimisation services during the contracting period by TE Consulting/Service





# Agenda

INTRODUCTION

CONSULTING

SERVICE

CONTRACTING

SYSTEM



## Photovoltaic systems

- Planning of photovoltaic systems
- Supply of photovoltaic systems
- Construction of PV systems
- Operation of photovoltaic systems
- Integration of battery and e-mobility as an option
- Integration of (virtual) self-consumption communities and local electricity communities as important aspects of economically viable PV projects
- Solar optimisation by automating the increase in self-consumption
- Planning, delivery, construction and operation throughout Switzerland



**Note:** The structural implementation of PV systems is carried out by our PV installation partner companies operating throughout Switzerland.



Got questions or a specific project?  
Our experts would be happy  
to help you find the best solution.

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