



TÜV NORD (TÜV[®])光伏组件产品认证介绍

TÜV NORD (Hangzhou) Co., Ltd.

- TÜV NORD光伏组件产品认证业务介绍
- TÜV NORD光伏组件产品认证实施规则和认证单元划分
- TÜV NORD光伏组件产品认证工厂检查要求

TÜV NORD光伏组件产品认证业务介绍

■ About TÜV NORD

TÜV NORD 的服务从蒸汽锅炉检验开始，经过一百多年的发展，已发展成为综合性的公司，包括了汽车、工厂和系统安全等方面。TÜV NORD 现今已成为一家服务范围非常广泛的公司：TÜV NORD AG。长期以来，在TÜV NORD的传统服务例如测试和认证中，已经加入了咨询、实施和培训等服务，成为了TÜV NORD AG 和它的分支机构全套服务中的组成部分。通过地区、国家和国际的运作，TÜV NORD集团结合了认可的技能、多方面的创新和大量在行业市场领先的公司，成熟的专业技能和**8400**名在世界各地热忱工作的员工，确保TÜV NORD成为了安全、质量、技能和信任的标志。

About US TÜV NORD



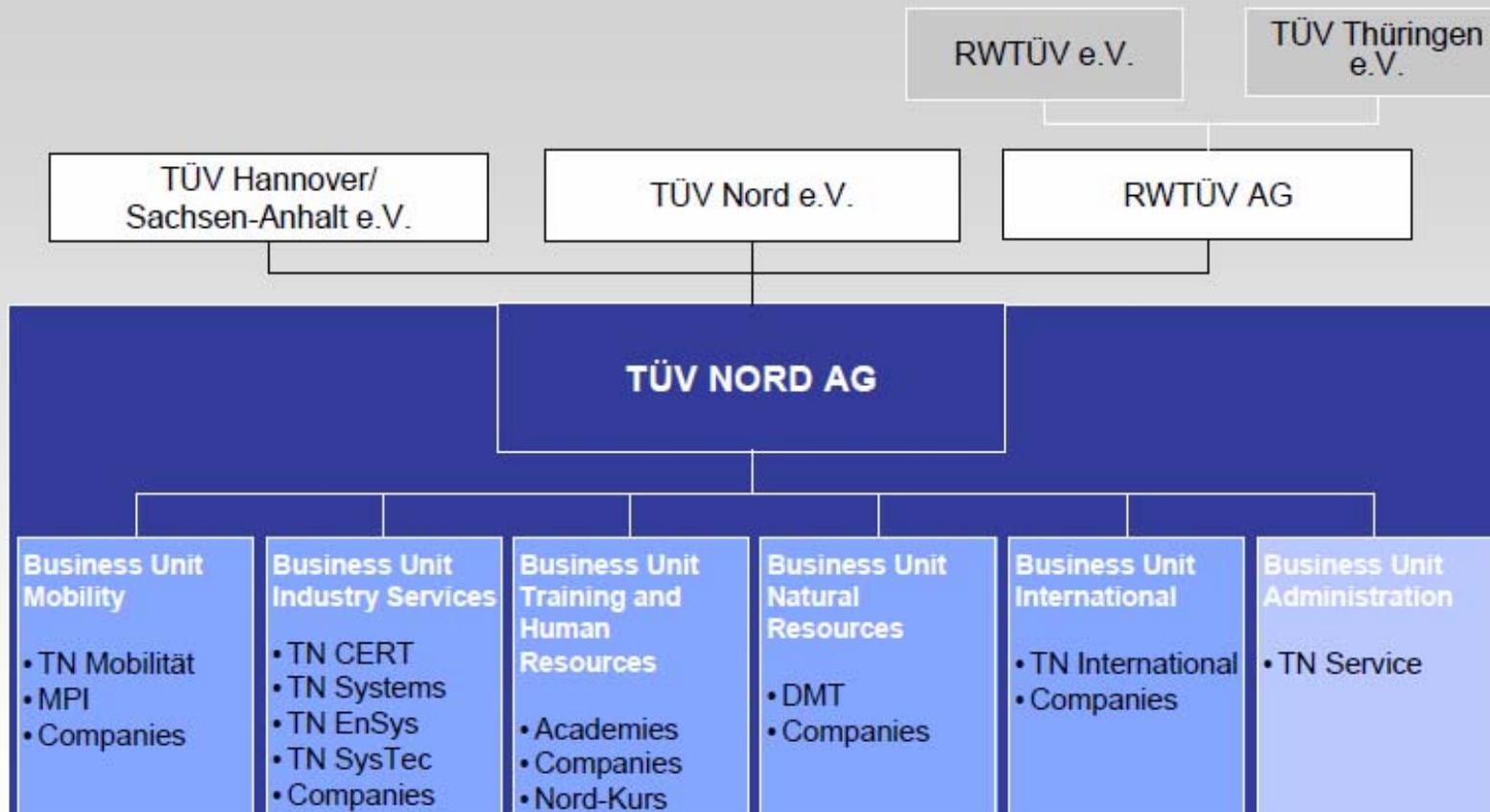
Company data TÜV NORD group (公司重要数据)

- **Foundation of the associations(成立时间):**
 - 1869: TÜV Nord e.V.
 - 1872: RWTÜV e.V.
 - 1873: TÜV Hannover/Sachsen-Anhalt e.V.
- **Foundation of TÜV NORD: 2004 (集团成立时间)**
- **Number of employees: more than 8400 (集团员工数)**
- **Turnover in 2008: €830 million,**
2009 over €1000 million (经营业绩)

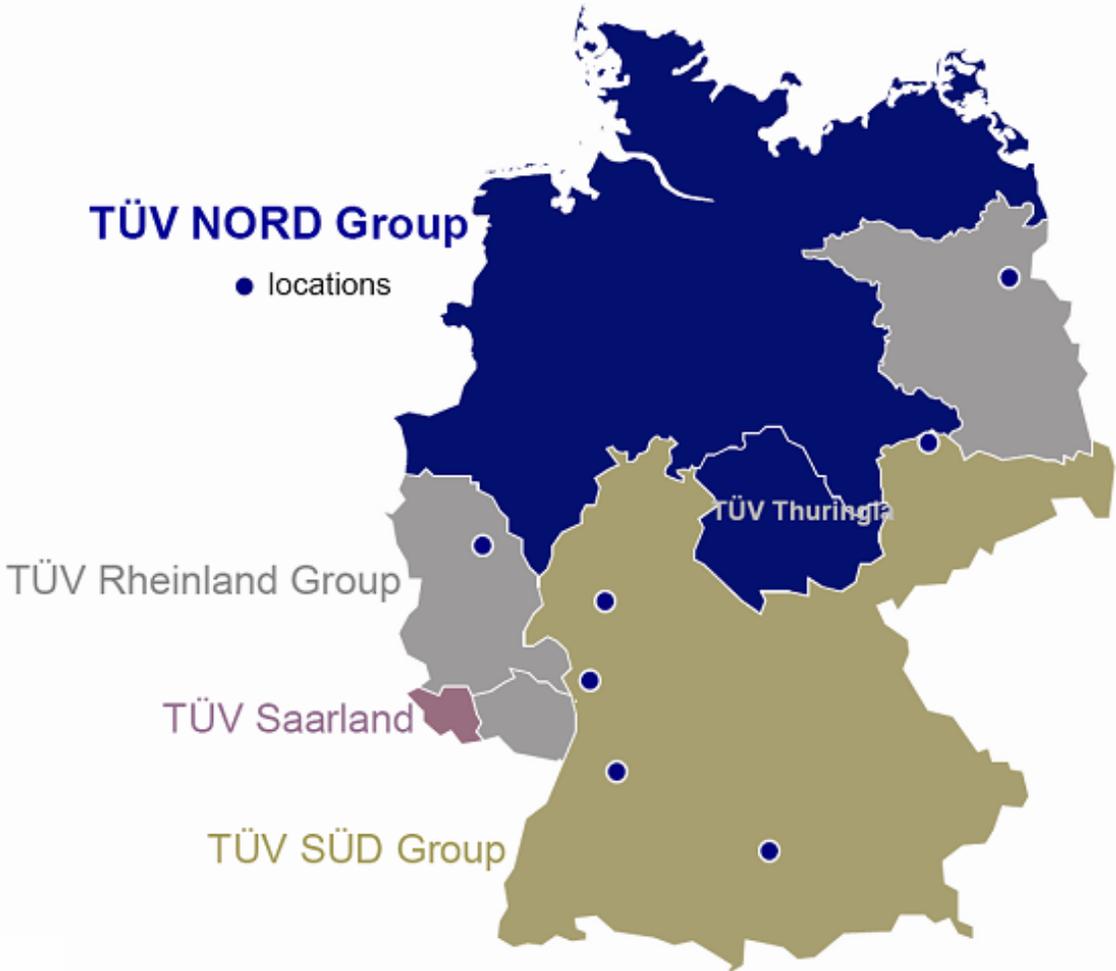
TÜV®

是TÜV NORD的注册商标

Structure of TÜV NORD

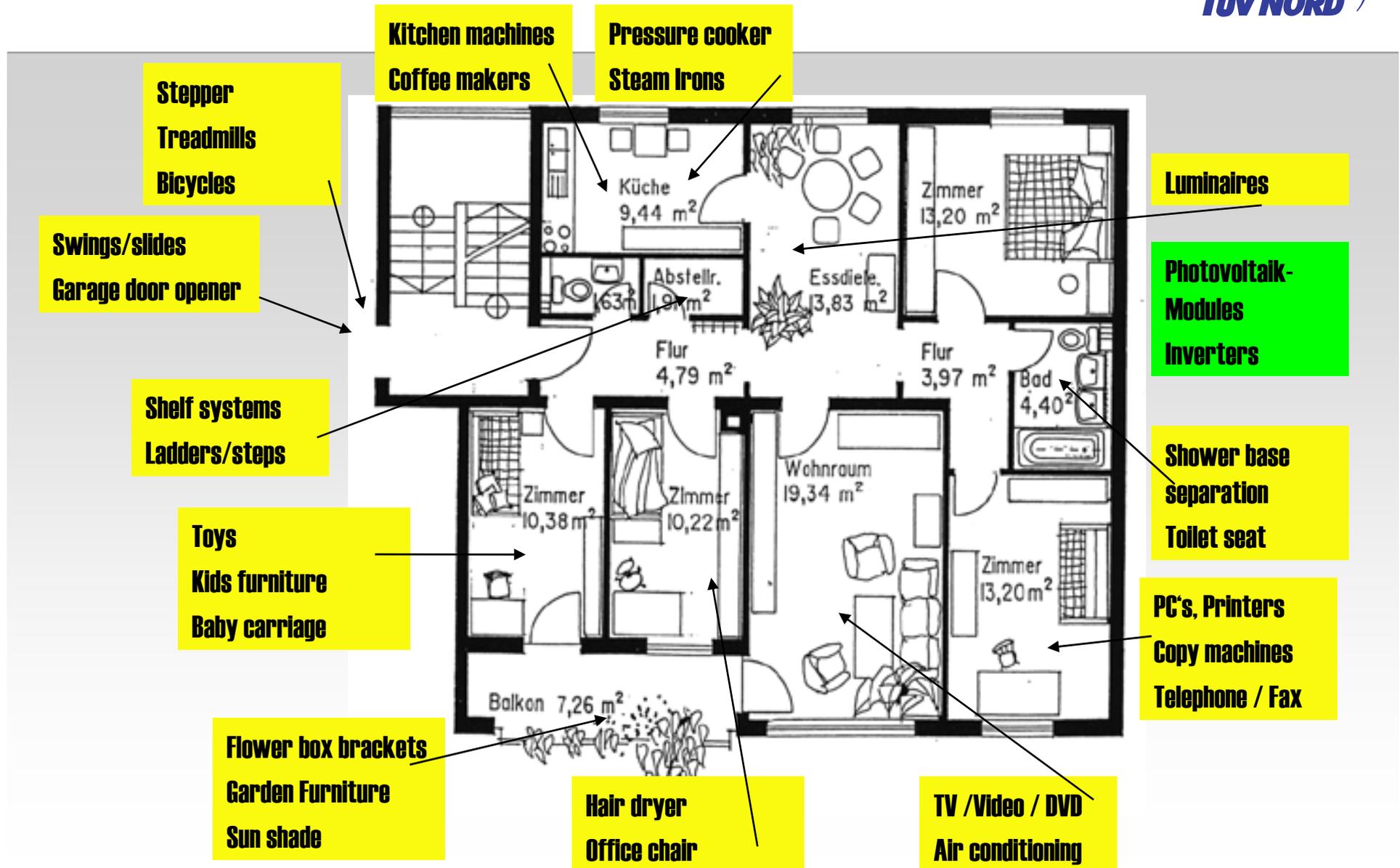


The TÜVs in Germany



- Bulgaria
- Brazil
- China / Hong Kong
- Denmark
- Estonia
- France
- Finland
- Greece
- Germany
- Great Britain
- India
- Indonesia
- Iran
- Italy
- Serbia
- Kazakhstan
- Korea
- Croatia
- Latvia
- Lithuania
- Malaysia
- Netherlands
- Poland
- Romania
- Russia
- Saudi Arabia
- Sweden
- Slovakia
- Spain
- Taiwan
- Thailand
- Czech Republic
- Turkey
- Ukraine
- Hungary
- UAE
- USA
- Vietnam
- etc.

我们的产品认证服务/Our Service in Product certification



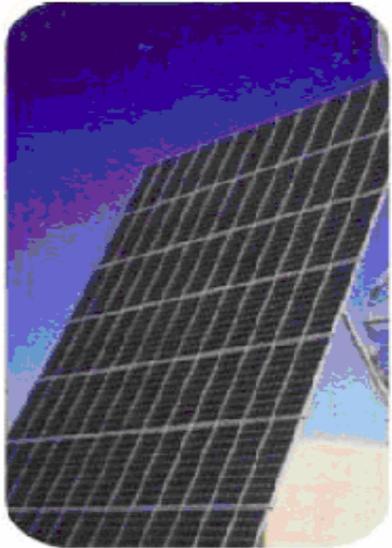
我们的光伏组件服务/Our Service in PV modules



	<p>服务介绍</p>
<p>培训</p>	<p>Appointed training/预约培训: 提供针对太阳能应用系统中所有元器件供应商关于符合性方面的培训</p>
<p>测试及分析</p> 	<p>Environmental/Performance Testing/环境性能测试: 提供针对硅晶半导体和薄膜两种太阳能电池板在内的 IEC/EN 61215 和 IEC/EN 61646 的环境和性能测试</p>
	<p>Eco-design assessment/生态设计评估: 针对太阳能应用系统和部件产品生命周期的生态设计服务能更有效地指导您如何保护环境。</p>
	<p>Regulatory EMC & Safety Testing/安全及电磁兼容测试: 针对欧洲、美国和其他目标市场相关标准的电磁兼容和安全规范测试</p>
	<p>Grid Protection Testing/电网保护测试: TÜV NORD 可以帮组客户通过在德国和欧洲其它一些国家的电网保护测试。</p>
<p>认证</p>	<p>TÜV Baumuster, TÜV 认证, GS 认证, : 针对德国市场的逆变器 GS 认证</p>
<p>验货、审核和评估</p>	<p>Pre-shipment Inspection/装船前检验: 提供装船前验货服务, 尤其专长于太阳能电池板方面</p>

太阳能电池板测试



<p>目标</p>	<p>针对 IEC/EN 标准提供有关太阳能板的报告/证书。确保买家采购的产品符合相关市场准入要求并工作良好。</p>
<p>测试</p>  <p>认证</p>	<p>太阳能板实验室测试部分项目清单:</p> <ul style="list-style-type: none"> ▶ Visual inspection / 外观检测 ▶ Performance at STC / STC 性能测试 ▶ Measurement of temperature coefficients / 温度系数测量 ▶ Measurement & Performance of NOCT / NOCT 测量及性能 ▶ Performance at low irradiance / 低辐照度性能测试 ▶ Outdoor exposure / 大气曝露测试 ▶ Hot-spot test / 热点测试 ▶ UV test / UV 紫外辐照测试 ▶ Thermal cycling / Humidity freeze / Damp Heat / 高低温湿热循环测试 ▶ Robustness of terminations / 引出端强度测试 ▶ Twist test / 扭力测试 ▶ Mechanical load test / ▶ TÜV NORD 集团出具附带年检的 TÜV 证书 ▶ TÜV NORD 集团出具附带年检的 TÜV 标志
<p>出货前检验</p>	<ul style="list-style-type: none"> ▶ 外观检测; 铭牌; 尺寸; 最大功率鉴定; 绝缘测试
<p>服务优势</p>	<ul style="list-style-type: none"> ▶ 统一的测试, 认证及验货项目管理 ▶ 在中国配备完全实验能力的实验室和欧洲本土实验室 ▶ 遍布中国的验货工程师确保出货前检测的快捷周期 ▶ 认证周期短, 服务优质和价格优惠
<p>服务能力</p>	<ul style="list-style-type: none"> ▶ 通过 TÜV NORD 在中国本土进行实验室测试 ▶ 通过 TÜV-NORD 在中国本土进行出货前检验

太阳能组件产品认证标志



该标志可以印在获证产品上，
是高品质产品的标志

太阳能组件产品认证证书



CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

YOHKON ENERGÍA, S.A.
C/ Plomo, 5, nave 7
47012 / Polígono San Cristóbal, Valladolid
Spain

is authorized to provide the product mentioned below with the mark as illustrated:



Description of product:

Silicon Photovoltaic Module

Model YE6220M

Tested according to: EN 61215:2005
EN 61730-1:2007
EN 61730-2:2007

Valid until 2014-03-30

Registered No.: 44 780 09 389685

Test Report No.: 28695RER.001 and 28695RSE.001

File No.: 2.4-4101/09 Ec/Spr1

Certification Body for Product Safety of
TÜV NORD CERT GmbH

Essen, 2009-03-31

Please also pay attention to the information stated overleaf.

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Fax +49 (0)201 825 3206

www.tuv-nord-cert.de
prodcert@tuv-nord.de

IECEE certificate of acceptance of TÜV NORD (PV under application)



International Electrotechnical
Commission



Worldwide System for Conformity Testing
and Certification of Electrotechnical
Equipment and Components (IECEE)

CERTIFICATE OF ACCEPTANCE

TO PARTICIPATE IN THE IECEE CB-SCHEME

TÜV NORD CERT GmbH

Langemarckstraße 20, D-45141 Essen, Germany

has been assessed and determined to fully comply with the requirements of ISO/IEC Guide 65: 1996-06, The Basic Rules, IECEE 01: 2006-10 and Rules of Procedure IECEE 02: 2006-10, and the relevant IECEE CB-Scheme Operational Documents.

TÜV NORD CERT GmbH

is therefore entitled to operate as a German Issuing and Recognizing National Certification Body within the IECEE CB Scheme for the Scope (Product Category(ies) and Standard(s)) as listed in the relevant part of the IECEE Web Site at www.iecee.org, and is subject to all other terms as set forth in the IECEE Basic Rules and Rules of Procedure.

This certificate remains valid until October 11th 2009, at which time it will be reissued by the IECEE Executive Secretary upon successful completion of the normally scheduled 3-year Reassessment Programme administered by the IECEE CB Scheme.

Signed by:

Pierre de Ruvo
IECEE EXECUTIVE SECRETARY

Date of Issue: 2007-06-19
CB066

太阳能组件产品其它认证标志



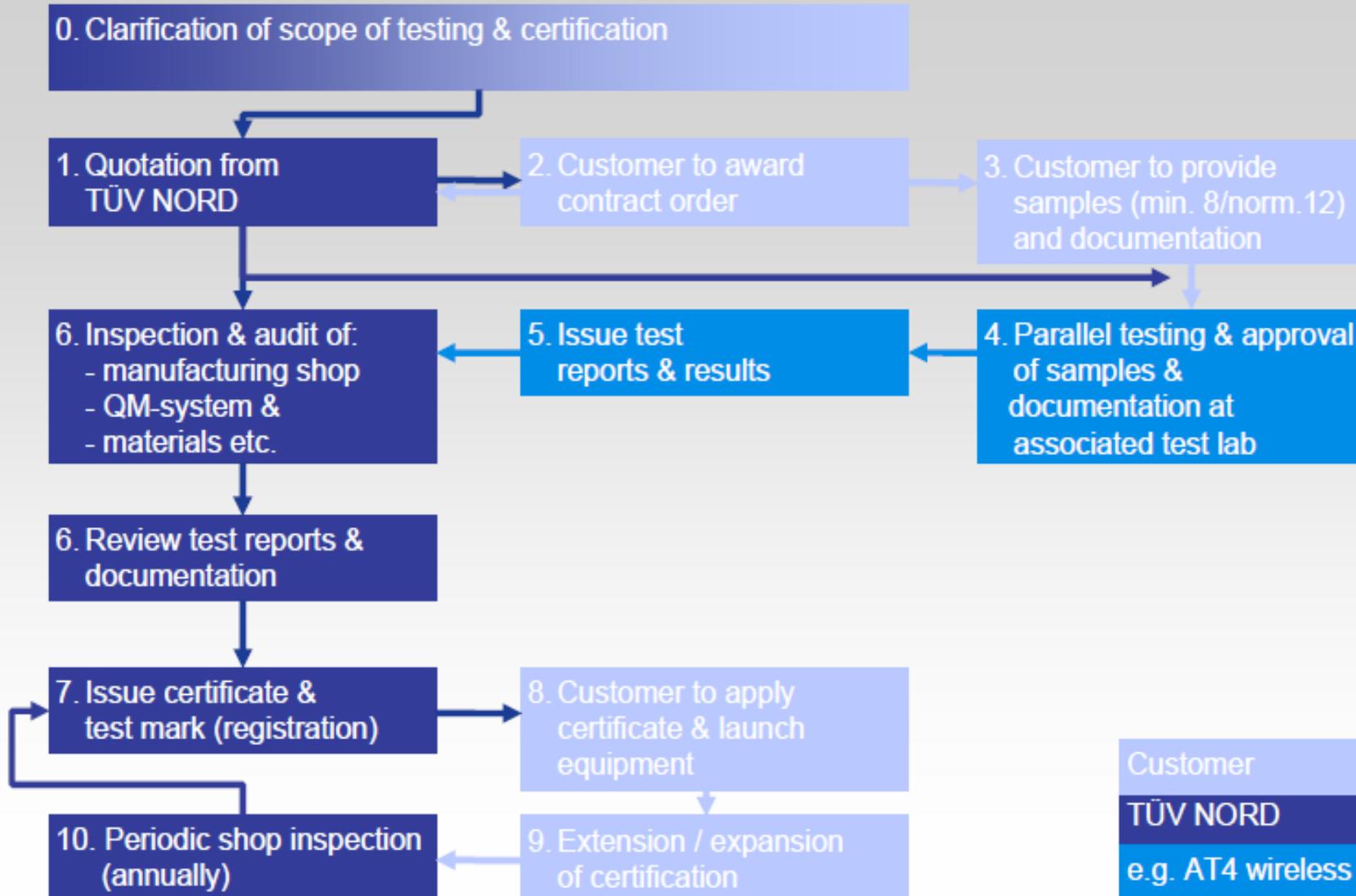
TUV NORD太阳能组件产品主要客户



- SCHÜCO SPAIN
- ISOFOTON
- SOLARIA
- YOHKON
- HELIOS
- SOLAICO
- IATSO
- CUANTUM
- SCHMID TECHNOLOGY SYSTEMS GmbH
- IBERSOLGLOBAL
- APIA XXI
- RIOGLASS
- G. SITEC
- SOL3G
- ENERTIS
- TSKAN

TÜV NORD光伏组件产品认证实施规则
和认证单元划分

TUV NORD 太阳能组件产品测试流程



TUV NORD 太阳能组件产品测试实验室介绍



TUV NORD太阳能组件产品认证测试优势



- 加速认证周期
- 降低认证费用
- 一检两证，覆盖国际和国内两大市场



PV Standards Introduce



- PV standards list
 - 地面用晶体硅电池组件: IEC/EN 61215+IEC/EN 61730
 - 地面用薄膜电池组件: IEC/EN 61646+IEC/EN 61730
 - 聚光板光伏: IEC/EN 62108+IEC/EN 61730
 - 接线盒: DIN V VDE V 0126-5:2008
 - 连接器: DIN V VDE V 0126-3:2006
 - 光缆: AK 411.2.3:2008
 - 背板: IEC/EN 61730(IEC/EN 60664)
 - 逆变器: IEC/EN 50178 E DIN IEC 62109-1(VDE 0126-14-1)

申请流程

- 申请表并提供产品信息表;
- 根据产品参数出具测试方案;
- 提供样品并通过测试
- 工厂检查
- 出具测试报告和证书

测试样品要求及相关证书要求



- 同一系列测试样品数量（IEC/EN61215+IEC/EN61730）

完整样品13pc

层压件2 pc

背膜11pc

接线盒7 pc

安装附件3 suits

零部件证书接线盒，电连接器，电缆，背板

同一系列：相同的工艺流程，电池片，零部件（接线盒，玻璃，背材等），不同的电性能

- 测试周期（IEC/EN61215+IEC/EN61730 or IEC/EN 61646+IEC/EN61730）

针对一个系列产品的全套测试可以在4个月左右完成

- 地面用晶体硅电池组件:

 - 单晶

 - 多晶

- 地面用薄膜电池组件

- 聚光板光伏

根据**IEC CTL PDSH647**号决议和**Retesting Guideline IEC 61730-1**要求开展检验。

TÜV NORD光伏组件产品认证工厂检查要求

- 核实工厂基本情况:

组织机构

生产场所

联系人及主要技术质量负责人

认证产品范围

管理体系情况

- 核实工厂产品一致性情况:
- Insulation EVA – Supplier: Advanced soldering
- Insulation TEDLAR – Supplier: Coveme
- Glass – Supplier: Centro Solar
- Connection box (including diode, cable and connectors) - Supplier: Tyco Electronics
- PV Cells - Supplier: ETON
- Foam - Supplier: Saint Godaint
- Metallic structure - Supplier: Fasten
- Ribbon – Ulbrich

落实关键元器件的一致性情况

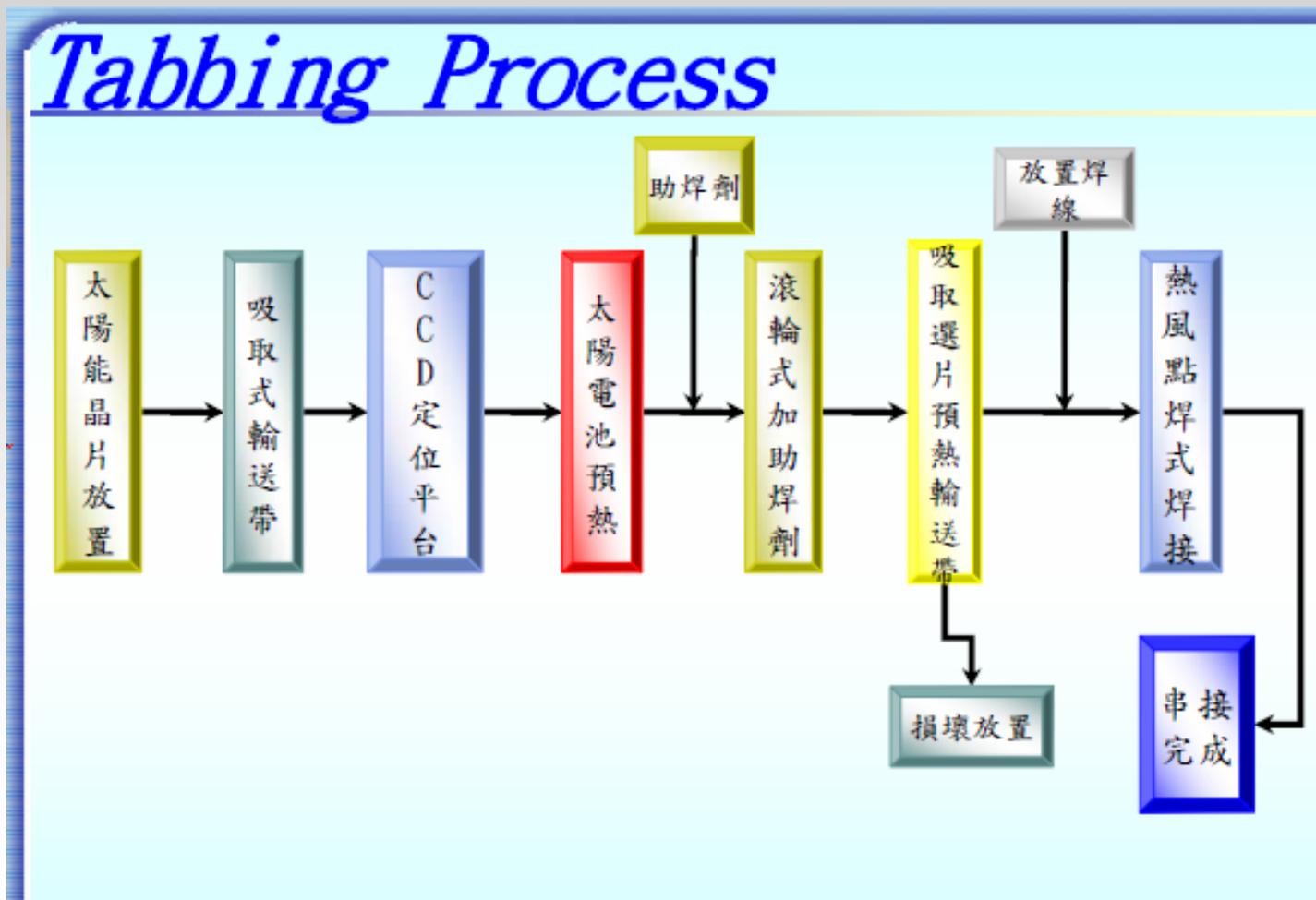
- 核实工厂设备情况:

- Production Facility
 - Cell tester
 - Laser cutting machine
 - Tabbing machine
 - Laminator
 - Simulator

- 核实工厂生产情况:

如:

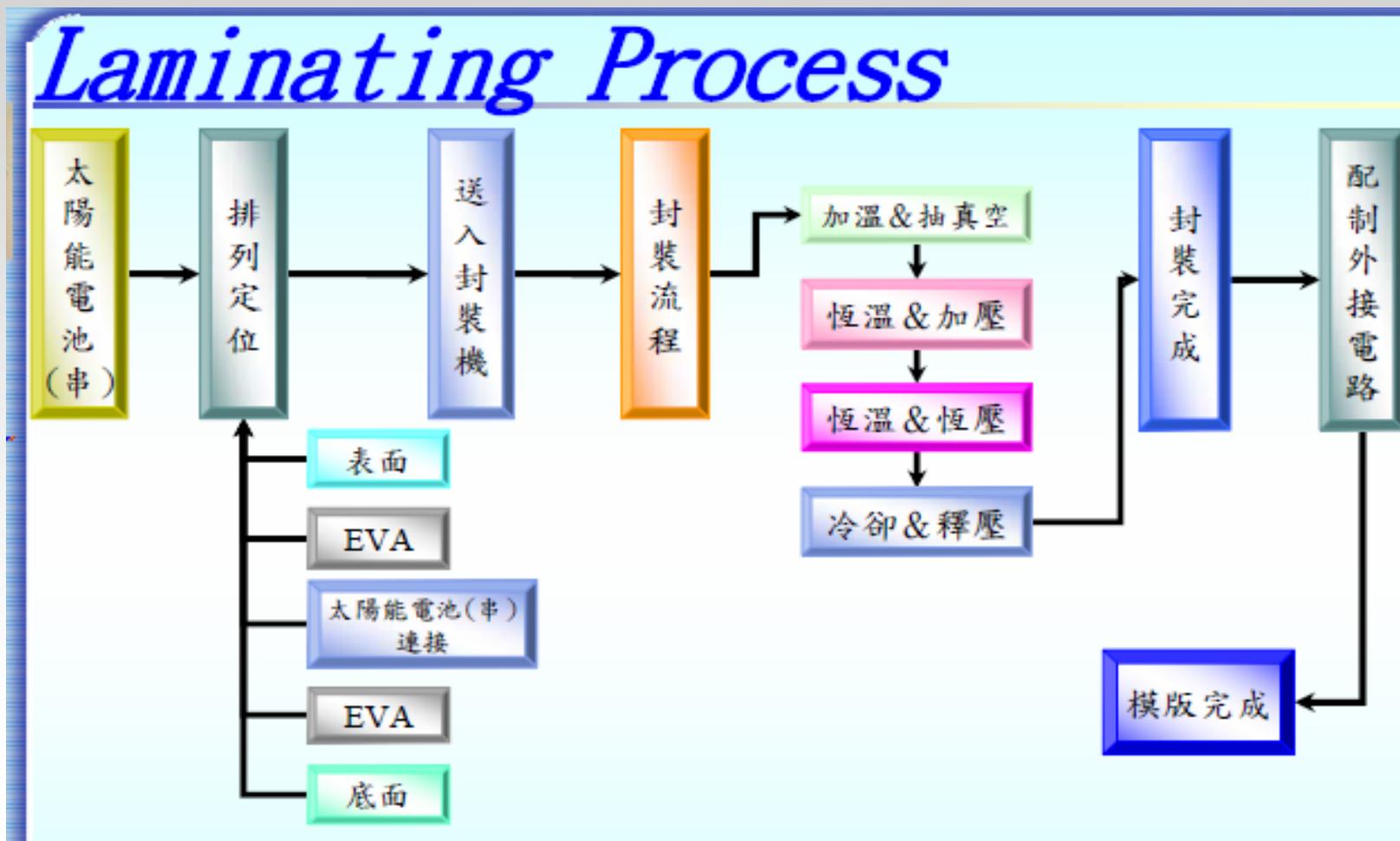
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- 核实工厂生产情况:

如:

-



- 核实工厂生产情况:

如:

-

太陽電池模組製作設備

● 模組檢測機

操作介面

滾輪

正、負極接取線

溫度感應器

檢測光源

Detailed description: This is a technical diagram of a solar module testing machine. The central image shows a large, flat, rectangular testing area with a solar module being processed. Red arrows point from this central image to five smaller inset images. The top-left inset shows a computer monitor displaying a graph with two curves (one red, one blue) and various data points, labeled '操作介面' (Operation Interface). The top-right inset shows a row of blue rollers, labeled '滾輪' (Roller). The middle-right inset shows two orange cables with metal connectors, labeled '正、負極接取線' (Positive and Negative Terminal Connection Lines). The bottom-right inset shows a blue rectangular sensor with a white probe, labeled '溫度感應器' (Temperature Sensor). The bottom-left inset shows a bright, grid-like light source, labeled '檢測光源' (Detection Light Source).

- 核实工厂生产情况：

如：

- 1. Production phase – Cells classification
- 2. Production phase – EVA and TEDLAR cut
- 3. Production phase – Assembly and cleaning
- 4. Production phase – Verification
- 5. Production phase – Soldering
- 6. Production phase – Burning
- 7. Production phase – Trimming
- 8. Production phase – Pressing
- 9. Production phase – Simulator + Routine test

- 检查生产企业的质量保证状况：
- 进货检验
- 过程检验
- 例行检验
- 最终检验
- 确认检验

- 检查生产企业的质量保证记录：
- 进货检验记录（抽样规定）
- 过程检验记录
- 例行检验记录（**100%**，耐压、接地必检）
- 最终检验记录
- 检测设备校准记录和维护保养（运行检查）记录
- 产品确认检验记录
-

- **Jack Geng**

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TÜV NORD Hangzhou Co., Ltd.

Making our world safer is our mission

TÜV NORD Group is well-positioned for the future: Successful as a technology service provider.

TÜV NORD are looking forward to paving your way to the global PV markets

TÜV NORD (Hangzhou) Co., Ltd.

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