

## How to become a KNX certified training centre



# Introduction



- Home and building control systems is the future of conventional installation techniques
- Many training centres rightfully decided for KNX STANDARD (ISO/IEC 14543)
- Schools meeting the minimum requirements can apply for KNX certification
- The same standardised minimum KNX knowledge will be conveyed at all KNX certified training centres
- Currently more than 180 KNX training centres in 34 countries





# Introduction

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- **Emphasis in the KNX Certification Scheme for training centres is put on :**
  - **quality of service via a number of quality guidelines or compliance to ISO 900x (optional)**
  - **quality of the tutors via participation to standardized tutor courses**
  - **quality of courses via standardized documentation both for tutors as well as for installers**
  - **quality of teaching equipment via KNX requirements**



# Advantages for the training centre (1)

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## 1. Considerably **reduced prices** for ETS4 Professional licenses used in KNX Certified courses:

ETS4 for regular customers: **900 EUR**

ETS4 for KNX certified TC (non ISO): **300 EUR**

ETS4 for KNX certified TC (ISO): **225 EUR**

## Advantages for the training centre (2)



2. Free access to constantly updated electronic KNX training documentation



KNX Basic Course Documentation  
Edition: February 2011

3. Use of the **KNX Training logo** (on letter headed paper, envelopes, business cards,...)



# Advantages for the training centre (3)



- 4. Listing of center in the **KNX international database** that can be consulted via the **KNX Association website**.  
[www.knx.org/knx-partners/training-centres/list](http://www.knx.org/knx-partners/training-centres/list)

KNX Online Shop   Members only   National sites   Contact / Secretariat

### Certified Trainingcentres of KNX Association

Training Centres search result [Total: 132]

Limited to Austria, Belgium, China, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Russian Federation, Singapore, Spain, Sweden, Switzerland, Turkey, United Kingdom   Ordered by countrycodes.country   [Search again](#)   [Next>](#)

Company	Country	Zip + City
Sonepar Österreich GMBH	Austria	4481 Asten bei Linz
HTBLUVA ST. PÖLTEN	Austria	3100 St Pölten
LANDESBERUFSSCHULE FÜR ELEKTROTECHNIK	Austria	2000 Stockerau
Fa Ing. Berger	Austria	1130 Wien
Getr. Limmert Ag	Austria	5020 Salzburg
WMF OOE GmbH	Austria	4021 Linz
rQuadrat Technical Solutions	Austria	6122 Fritzens
aecTECH Automatisierungstechnik GmbH	Austria	6020 Innsbruck
BAZ DES BFI WIEN	Austria	1200 Wien
Wirtschaftskammer STEIERMARK - Wirtschafts-Förderungsinstitut	Austria	8021 Graz
Schäcke GmbH	Austria	1100 Wien
FOREM	Belgium	1020 Châtelaineau
Domotica opleidingscentrum VDAB	Belgium	1800 Vilvoorde
FORMATPME	Belgium	5032 Gembloux
VDAB	Belgium	8000 Brugge
SIEMENS OPLEIDINGSCENTRUM	Belgium	1654 Huzizingen

## Advantages for the training centre (4)



### 5. Free publicity in the KNX Journal (50.000 copies)

KNX Partner / KNX Partners



Neue Schulungszentren / New Training Centers



#### Neues Schulungszentrum in Belgien New Training Center in Belgium

Das De Nayer University College, welches mit der bekannten katholischen Universität von Leuven in Zusammenhang steht, bietet Bachelor- und Ma-

De Nayer University College, associated with the famous Catholic University of Leuven, provides in bachelor and master studies in several technical



#### BZE – Bildungs Zentrum Elektrotechnik (Deutschland) BZE – Educational Center for Electrotechnology (Germany)

Das BZE Bildungszentrum Elektrotechnik Hamburg ist The BZE, the education center for electrotechnology

# Advantages for the training centre (5)



## 6. Free copies of the KNX Journal for students



## 7. Right to attend the KNX Training Centre Conference organized by KNX Association

- More info can be found here:  
<http://www.knx.org/knx-partners/training-centres/events>

### The Conference

- Open to both non certified as well as certified KNX training centres – topics of interest to future KNX tutors and heads of training
- News from KNX Standard and the Association
- State of affairs development ETS 4
  - KNX Green Buildings
  - KNX Energy Efficiency
  - KNX product novelties
  - Language in German and English (Simultaneous translation provided)

### Where?

The Conference will be held at Siemens Regensburg (Germany), one of the training centres accredited for KNX certified basic, upgrade and tutor training – See attached road map.  
Place: Siemens AG  
Siemensstraße 10  
D-93055 Regensburg

### Interested?

Fill in the underneath fields and fax back to +32 2 675 50 28.

Act quickly! Maximum number of participants 50 – **Deadline for registration: 06/08/2009**

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Zip/City: \_\_\_\_\_

Country: \_\_\_\_\_

Tel/Fax: \_\_\_\_\_

VAT number: \_\_\_\_\_

E-Mail: \_\_\_\_\_

KNX Association invites to a joint dinner on 12 June 2009. Tick next alongside, if you wish to



Regensburg, 16 June 2009

The Worldwide STANDARD for Home and Building Control

Conference venue:





# Advantages for the students (1)

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1. **ETS4 Lite for free for the students once registered for the course**
2. **Rebate of 12,5 % on the ETS4 Professional at the KNX Online Shop after passing the exam.**
  - Normal ETS4 Professional price: 900 EUR
  - The student has a ETS4 Lite after registration, value: 100 EUR
  - Upgrade ETS4 Lite => ETS4 Professional: 800 EUR
  - When use of 12,5 % voucher, upgrade costs: 700 EUR
  - **ETS4 Professional for students 700 EUR instead of 900 EUR!**



## Advantages for the students (2)



3. All students receive a **KNX certificate** after a successful exam. With this **KNX certificate** they can apply for **KNX partnership** and use the **KNX Partner logo**.





# Advantages for the students (3)

- 4. Listing of KNX Partners in the KNX international database which can be consulted via the KNX Association website. [www.knx.org/knx-partners/knx-eib-partners/list](http://www.knx.org/knx-partners/knx-eib-partners/list)

KNX Online Shop   Members only   National sites   Contact / Secretariat

**KNX Partners result** Total: 499

Limited to Belgium   Ordered by company (click headers to order)   [Search again](#)

Info	Company	<input type="text" value="(type Company or Lastna)"/>	Search	Name	Country	Zip + City	<input type="text" value="(type Zip or City)"/>	Search
<a href="#">More info</a>	3D sprl			Tonneau Eric	Belgium	1970 Wezembek-Oppem		
<a href="#">More info</a>	A.BA Peinturelec Sprl			Aitsalah Hassan	Belgium	6020 Dampremy		
<a href="#">More info</a>	A.C.I.			Agemans Christophe	Belgium	2590 Berlaar		
<a href="#">More info</a>	A.D.I.			Verresen Kurt	Belgium	2920 Kalmthout		
<a href="#">More info</a>	A.E. Tanghe Frank			Tanghe Frank	Belgium	8930 Rekkem		
<a href="#">More info</a>	A.E.M.			Martens Danny	Belgium	9080 Lochristi		
<a href="#">More info</a>	A.E.T. Decoutere			Decoutere Noel	Belgium	8210 Loppem		
<a href="#">More info</a>	A.T.A. & Services bvba			Daniels Pierre	Belgium	2220 Heist old Berg		
<a href="#">More info</a>	A.T.E. sprl			Olivier Jean-François	Belgium	7500 Tournai		
<a href="#">More info</a>	A.T.S.-Engineering			Van Spaendonk Erich	Belgium	2250 Olen		
<a href="#">More info</a>	ACEDEM Sprl			Kalidis	Belgium	1180 Brussels		
<a href="#">More info</a>	ADIT			Maes Dirk	Belgium	8400 Oostende		
<a href="#">More info</a>	AEP ELEKTRO bvba			Peeters Wim	Belgium	2570 Durfel		
<a href="#">More info</a>	AEVW Vandenhouwe Marc			Vandenhouwe M.	Belgium	1600 Sint-Pieters-Leeuw		
<a href="#">More info</a>	Afschrift NV			Malisse Geert	Belgium	8850 Ardooie		
<a href="#">More info</a>	Agelec bvba			Van Hoof Gert	Belgium	2547 Lint		
<a href="#">More info</a>	AIDAC			Romain Robert	Belgium	B-1390 Grez-doiceau		
<a href="#">More info</a>	Alelek nv			Pittevils Koen	Belgium	3570 Alken		
<a href="#">More info</a>	Algemene Electriciteitswerken Peeters Koen			Peeters Koen	Belgium	2222 Wekevorst		
<a href="#">More info</a>	Algemene Elektriciteit Henk Soens			Soens Henk	Belgium	8581 Waarnaarde-Avelgem		
<a href="#">More info</a>	Algemene Elektriciteit Rosseel			Rosseel Eddy	Belgium	8200 Brugge		

## Types of certified KNX Training Centre

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- **KNX certified training centre:**  
can organize **basic** courses
- **KNX+ certified training centre:**  
can organize **basic and advanced** courses
- **KNX++ certified training centre:**  
can organize **tutor** seminars



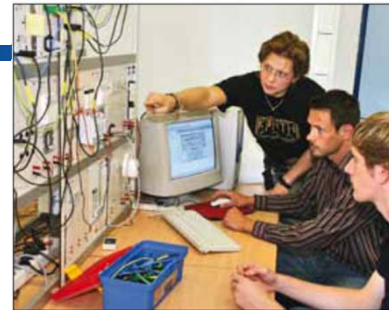
# Content of Certified KNX courses

## Certified KNX Courses

Three different KNX course levels have been standardized by KNX Association with the following content:

types	KNX Basic Course	KNX Advanced Course	KNX Tutor Course
Topics	<ul style="list-style-type: none"> <li>✓ KNX System Arguments</li> <li>✓ KNX Communication</li> <li>✓ KNX TPI Topology</li> <li>✓ KNX TPI Telegram</li> <li>✓ KNX Bus Devices</li> <li>✓ KNX TPI Installation</li> <li>✓ KNX Powerline PL110</li> <li>✓ ETS Project Design: Basic</li> <li>✓ ETS Project Design: Advanced (informative)</li> <li>✓ ETS Commissioning</li> <li>✓ ETS Diagnostics</li> </ul>	<ul style="list-style-type: none"> <li>✓ Fail-safe planning</li> <li>✓ Flags</li> <li>✓ Heating</li> <li>✓ Integrated applications</li> <li>✓ Interworking</li> <li>✓ Couplers</li> <li>✓ Lighting Control</li> <li>✓ Security Technology</li> <li>✓ Logic Operations</li> <li>✓ Visualization systems</li> <li>✓ Supplementary tools</li> </ul>	<ul style="list-style-type: none"> <li>✓ KNX Requirements for Training Centers</li> <li>✓ Structure and Scope of KNX Association</li> <li>✓ KNX Software</li> <li>✓ History of Bus Systems</li> <li>✓ Serial data transmission - KNX Protocol</li> <li>✓ Microcontrollers</li> <li>✓ Application program</li> <li>✓ IP Communication</li> <li>✓ KNX Certification Scheme for Products</li> </ul>
Exams	<ul style="list-style-type: none"> <li>• Theoretical</li> <li>• Practical</li> </ul>	<ul style="list-style-type: none"> <li>• Practical</li> </ul>	<ul style="list-style-type: none"> <li>• Theoretical</li> </ul>

# Requirements (1)



## ■ Tutor qualifications:

- KNX tutor may be internal or external person
- Theoretical part of the basic course must be taught by certified tutor
- Where:
  - At KNX++ certified training centres  
the complete list of KNX++ certified training can be found here:  
<http://www.knx.org/knx-partners/training-centres/tutor-course/>
  - Crash course of two days and one day exam organized by KNX Association Brussels either:
    - *At the to be certified training centre or at KNX premises*
    - *Costs: 3000 € (regardless of number of participants)*

# Requirements (2)



## ■ KNX material:

- KNX power supply
- KNX devices for:
  - Dimming
  - Switching
  - Blinds control
  - Line coupler
- At least ETS4 Lite
  - Licensed by the training centre
  - Or the free ETS4 Lite on the student's laptop



# Requirements(3)



## ■ Facilities:

- Large image projection
- Blackboard (traditional or digital)
- ETS4 Professional on the tutor PC
- 1 computer with ETS4 (at least Lite) per worktable
- Minimum 2 worktables - maximum of 2 students per worktable

## ■ Cost:

- 500 EUR annually





# KNX Certification procedure (1)

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## 1. Registration:

- TC fills in questionnaire
- Sends it back to KNX Association
- As **registered TC**:
  - Access to the electronic version of training documentation
  - TC can convey the KNX technology
  - Unable to issue partnership certificates

## 2. Authorisation:

- Compliance to the minimum requirements
- Authorized for basic course with KNX exam (or advanced when applied for)
- Authorisation phase:
  - 2 basic courses with KNX exam
  - Or 2 advanced courses with KNX exam
  - Maximum duration of authorization: one year

# KNX Certification procedure (2)



## 3. Inspection:

- Compliance to ISO 9001 is recommended
- Checking of KNX requirements based on supplied documentation.

**Important: Training centres that already have been KNX certified for the organisation of basic courses can apply for extension of their certification to advanced courses by the submission of documents showing the compliance of the additional requirements.**



# KNX Certification procedure (3)



## 4. Certification:

KNX Association grants the KNX Certificate after successful assessment of the requested documentation.

## 5. Surveillance:

- When ISO 9001 Certified: requirements checked by renewed submission of ISO 9001 certificate.
- When not ISO 9001 Certified:
  - KNX can request documentation at any time
  - Documents shall reach KNX 3 weeks later
  - KNX may organize surprise inspections



## Contact / Documentation

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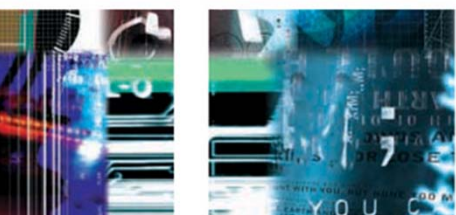
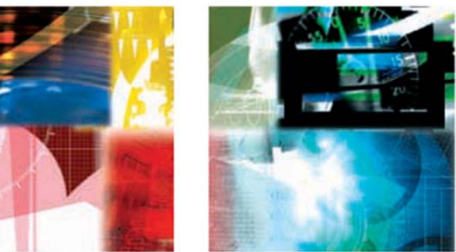


### ■ Contact:

- Tel: +32.7758590
- Email: [certification@knx.org](mailto:certification@knx.org)

### ■ More info:

- [www.knx.org/knx-partners/training-centres/about](http://www.knx.org/knx-partners/training-centres/about)
- [www.knx.org/knx-partners/training-centres/joining](http://www.knx.org/knx-partners/training-centres/joining)
- [www.knx.org/knx-partners/training-centres/documentation](http://www.knx.org/knx-partners/training-centres/documentation)



**Thank you for your  
attention!**

