



Friday, 11 October 2013
ATExcelixi S.A. Athens, Greece

BICSI
Greece Day Event

Layer one

LAYER ONE
Conference

Welcome



The Bicsi logo features the word "Bicsi" in a bold, white, sans-serif font. Above the letters "i" and "c" is a white arc that starts under the "B" and ends under the "i".

Friday, 11 October 2013
ATExcelixi S.A. Athens, Greece

BICSI
Greece Day Event

The Layer one logo consists of the word "Layer" in a bold, black, sans-serif font, followed by the word "one" in a blue, sans-serif font.

LAYER ONE
Conference

Building Automation Tech: The Case of KNX

George Lazos M.Sc.

Founder of Quantum KNX Certified Training Centre

KNX Certified Tutor

KNX Greece Coordinator

BICSI Vice Country Chair



The Standard

Quantum
Go Deep into Things

www.knxtraining.gr

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What is a building?





Why?



Why we need building automation?

First Action

- What are the customer needs?
- What are the needs of the building?



Fill out a questionnaire



Customer & Building Needs



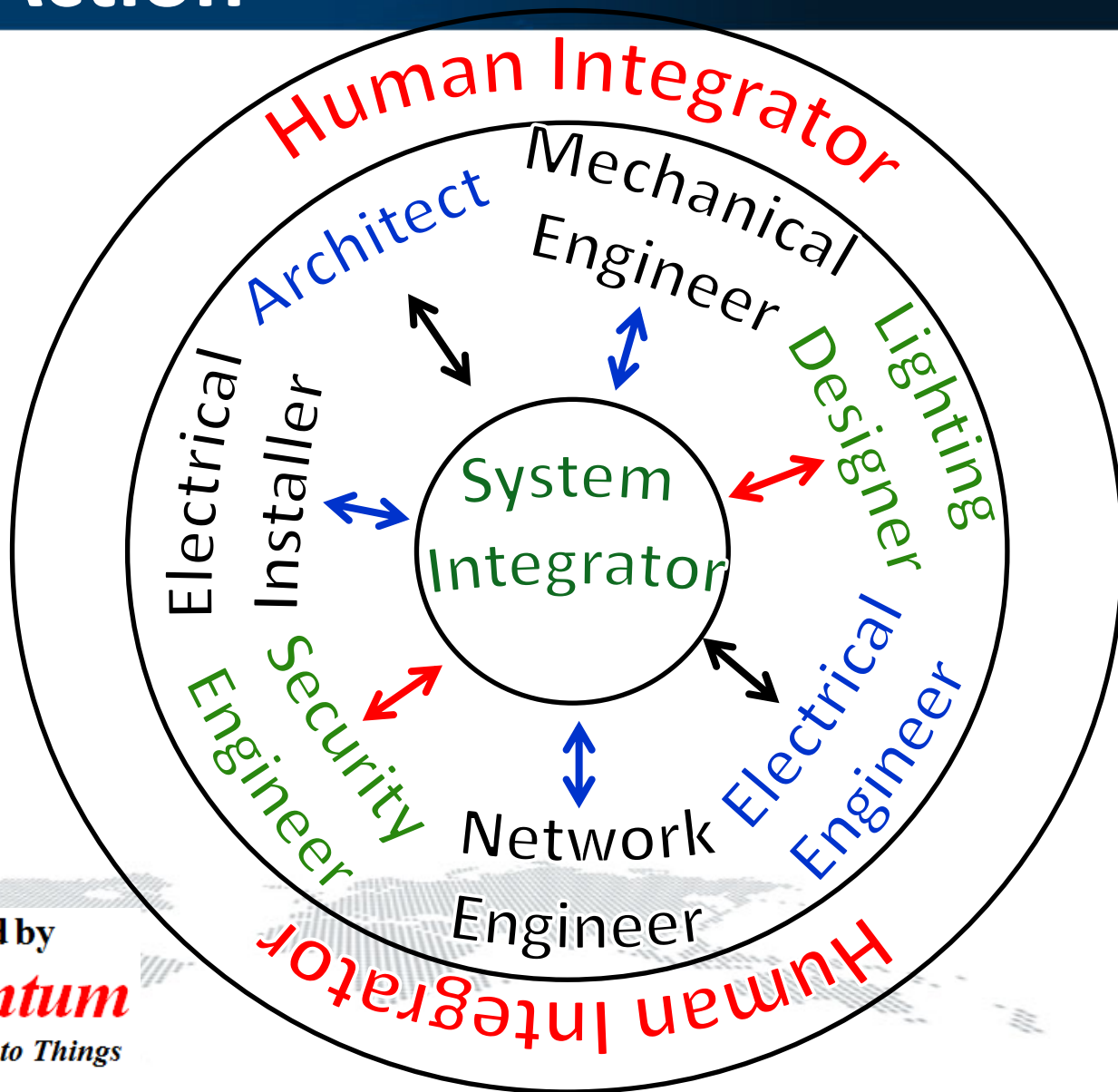
- Energy Efficiency
- Safety
- Security
- Functionality
- Unlimited Control
- Comfort
- Flex
- Adaptability
- Monitoring
- Technical Alarms
-



Questionnaire is **Mandatory**
for successful design

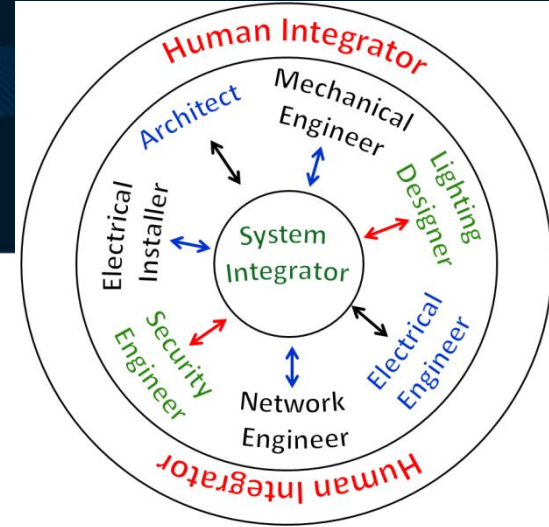


Second Action



Second Action

Ask every designer involved for the proposed systems of the building



Designed by
Quantum
Go Deep into Things



Lighting



Blinds &
Shutters



Security
Systems



Energy
Management



HVAC
Systems



Monitoring
Systems



Remote
control



Metering



Audio/Video
Control

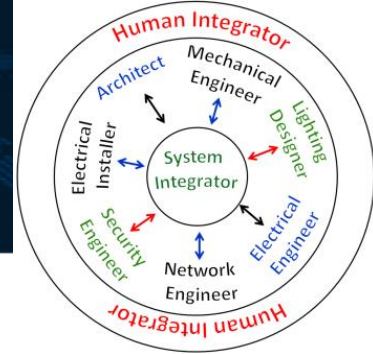


White
Goods

Bicsi

If....

~~Human Integration~~

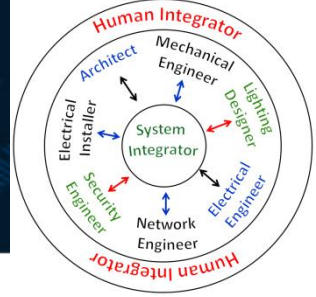


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Bicsi

then....

~~System Integration~~

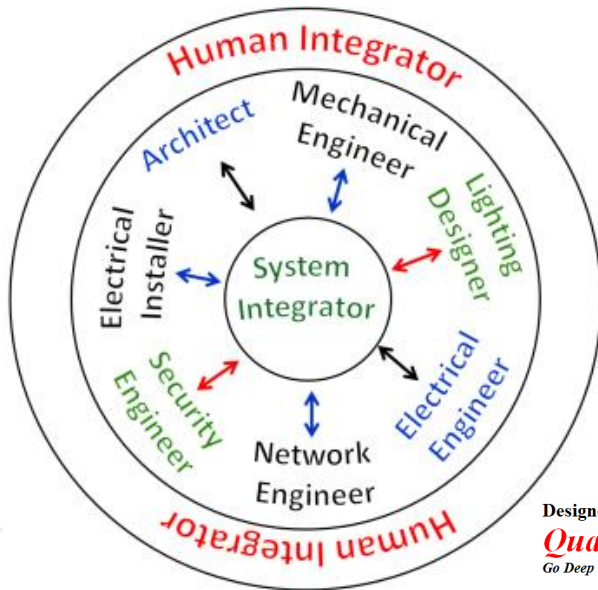


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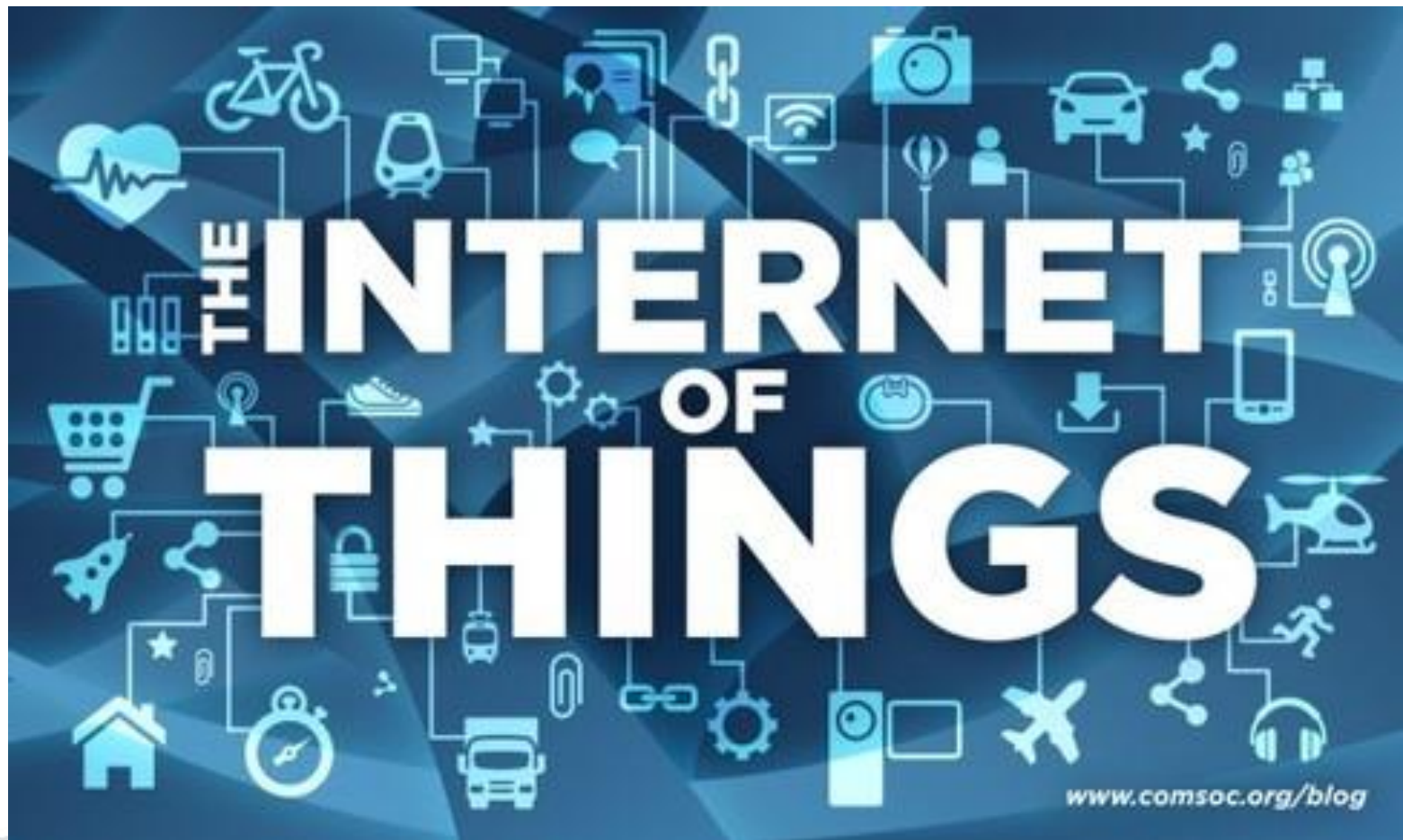
What is system

integration?



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In a building there are a lot of “things” that must talk to each other



Lighting



Blinds &
Shutters



Security
Systems



Energy
Management



HVAC
Systems



Monitoring
Systems



Remote
control



Metering



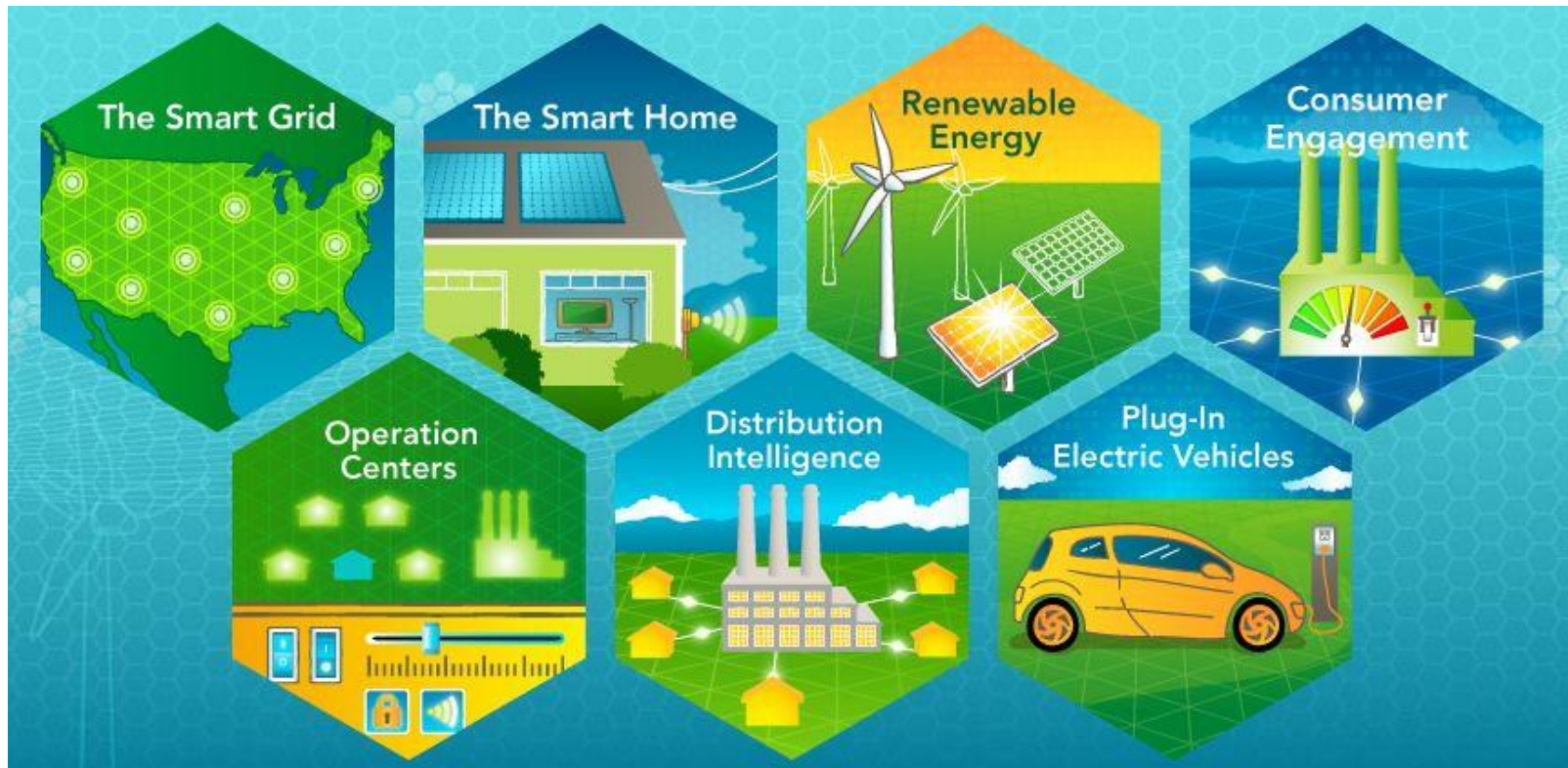
Audio/Video
Control



White
Goods

Bicsi[®]

Moreover the building must talk to the Smart Grid



thus the building needs
one network for its
“things”



What are the
appropriate tools for a
System Integrator to
build a network of
“things”
in a building?



The Case of...



The Standard



What is KNX?

KNX is a communication protocol between KNX Certified “things” in a building



**Started as an idea back
in 1990 by**

15 manufacturers

**Foundation of
EIBA
(European
Installation Bus
Association)**





A Strong vision...

**a team that believed in
the idea and.....**



today

321 Members in 34 Countries

The Bicsi logo features the word "Bicsi" in a bold, blue, sans-serif font. Above the letters "i" and "s" is a stylized blue arc that resembles a signal or a wave.

KNX is approved as

ISO/IEC 14543-3

CENELEC EN 50090

CEN EN 13321-1

GB/T 20965



Standardization means

- Future proof
- Quality for everybody
- Evolution (standards are live docs)

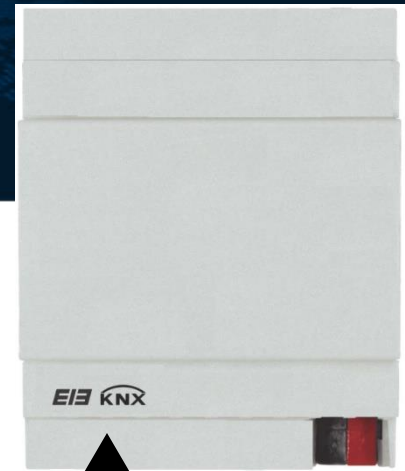


KNX certified

**products holds
the official logo
of KNX**

more than 7.000

**KNX Certified Product
Groups**



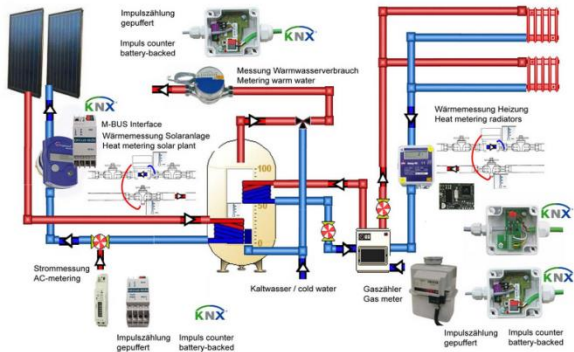
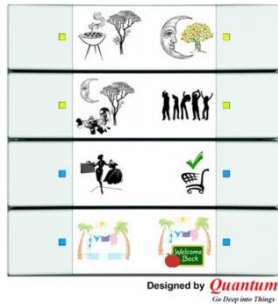
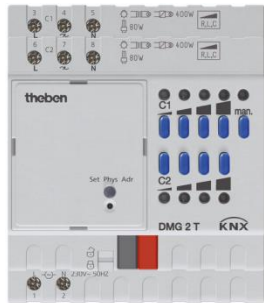
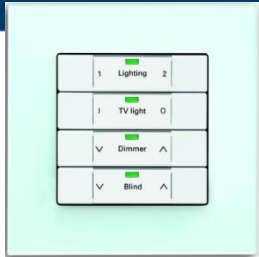
KNX trademark logo

guarantees
interworking and
interoperability
between products
from different
manufacturers



In the same building

different manufacturers



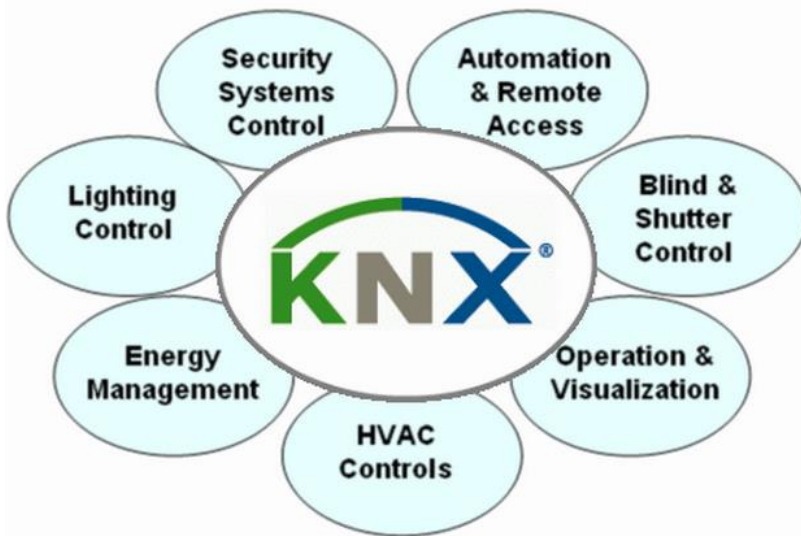
Bicsi

**with more than 7.000 KNX
Certified Product Groups**

 **is the most sophisticated
open worldwide protocol for
Building Automation and
System Integration**



With **KNX** you can design
and build a sophisticated
Network of “things” in a
building



Bicsi

**all that with only one
software tool for 321
manufacturers**





One software tool
321 Manufacturers
Global skill

Bicsi

38.712 Certified KNX



Partners in 122 Countries

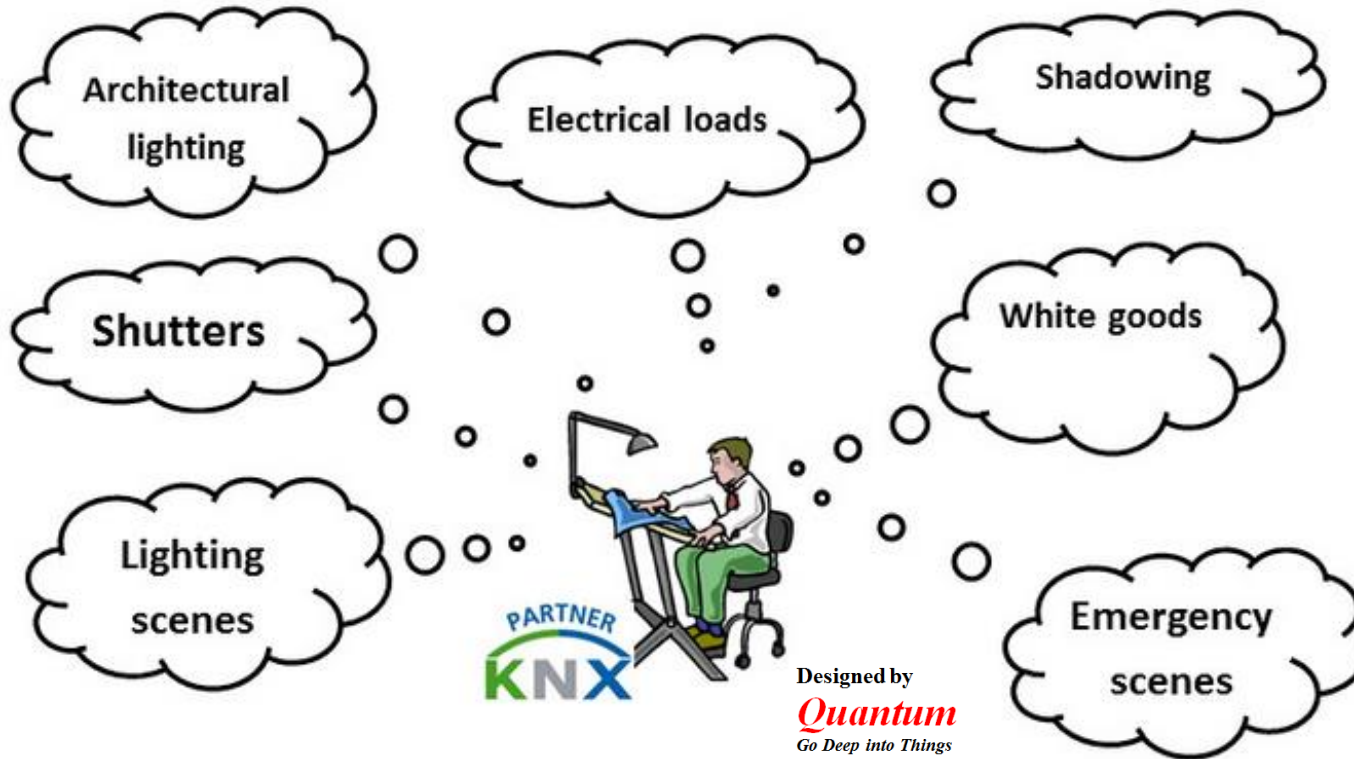


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Bicsi

worldwide recognized

It is a global skill



worldwide KNX training standards 266 Certified KNX TCs in 50 countries



KNX Partners - List



With this search engine it is possible to list all qualified KNX - contractors, called "partners", in one or more countries, as indicated by the country flags underneath. For this, simply click the check box(es) in front of the flag.

For a more detailed search, tick one or more countries from the underneath list and press the 'Show' button. On the then appearing page, it will be possible to start a more detailed search on company name and postal code (either in full or in part).

[Do you want to join us as a KNX Partner ?](#)

Countries selection

<input type="checkbox"/> Albania (8)	<input type="checkbox"/> Ethiopia (1)	<input type="checkbox"/> Lithuania (31)	<input type="checkbox"/> Qatar (39)
<input type="checkbox"/> Algeria (6)	<input type="checkbox"/> Faroe Islands (3)	<input type="checkbox"/> Luxembourg (122)	<input type="checkbox"/> Réunion (11)
<input type="checkbox"/> Andorra (35)	<input type="checkbox"/> Finland (180)	<input type="checkbox"/> Macau (1)	<input type="checkbox"/> Romania (65)
<input type="checkbox"/> Angola (8)	<input type="checkbox"/> France (1655)	<input type="checkbox"/> Macedonia (13)	<input type="checkbox"/> Russian Federation (326)
<input type="checkbox"/> Argentina (34)	<input type="checkbox"/> French Polynesia (8)	<input type="checkbox"/> Malaysia (74)	<input type="checkbox"/> Saudi Arabia (119)
<input type="checkbox"/> Armenia (1)	<input type="checkbox"/> Georgia (4)	<input type="checkbox"/> Maldives (2)	<input type="checkbox"/> Serbia (60)
<input type="checkbox"/> Australia (160)	<input type="checkbox"/> Germany (15503)	<input type="checkbox"/> Malta (6)	<input type="checkbox"/> Singapore (179)
<input type="checkbox"/> Austria (3421)	<input type="checkbox"/> Gibraltar (1)	<input type="checkbox"/> Martinique (10)	<input type="checkbox"/> Slovakia (62)
<input type="checkbox"/> Azerbaijan (15)	<input type="checkbox"/> Greece (778)	<input type="checkbox"/> Mauritius (9)	<input type="checkbox"/> Slovenia (60)
<input type="checkbox"/> Bahrain (13)	<input type="checkbox"/> Guadeloupe (4)	<input type="checkbox"/> Mexico (42)	<input type="checkbox"/> South Africa (43)
<input type="checkbox"/> Guatemala (3)	<input type="checkbox"/> Monaco (5)	<input type="checkbox"/> Spain (4497)	

Total: 38712 partners in 122 countries



96 Scientific Partners in 27 countries



10 User Clubs in 9 countries



36 KNX National Groups



KNX Updates....



30.3.–4.4.2014, Frankfurt

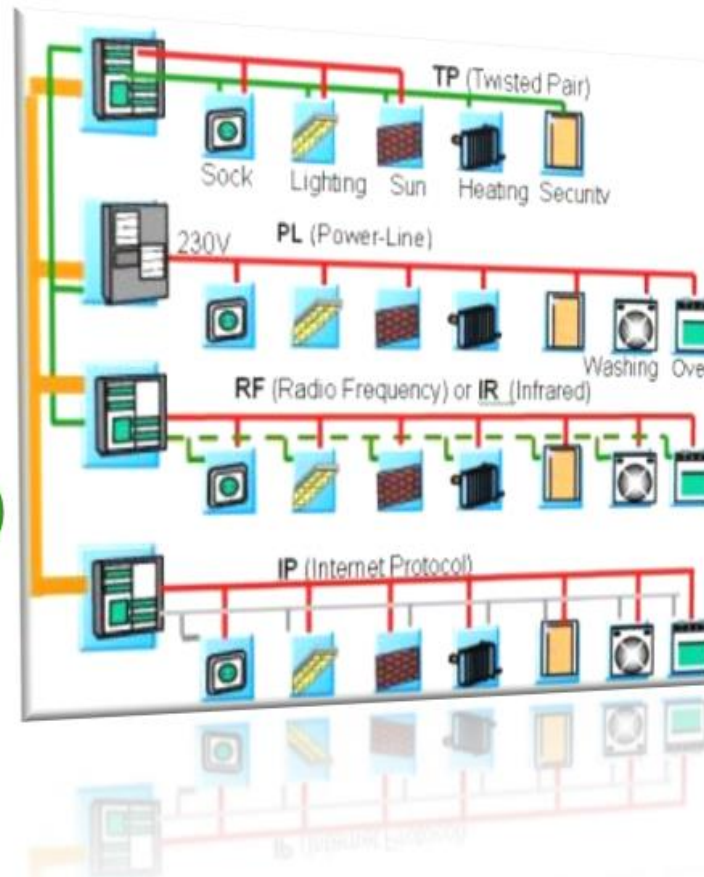


10.–14.03.2015, Frankfurt



KNX supports several Communication Media

- Twisted Pair (TP)
- Power Line (PL)
- Radio Frequency (RF)
- IP/Ethernet



KNX supports different
Configuration Modes

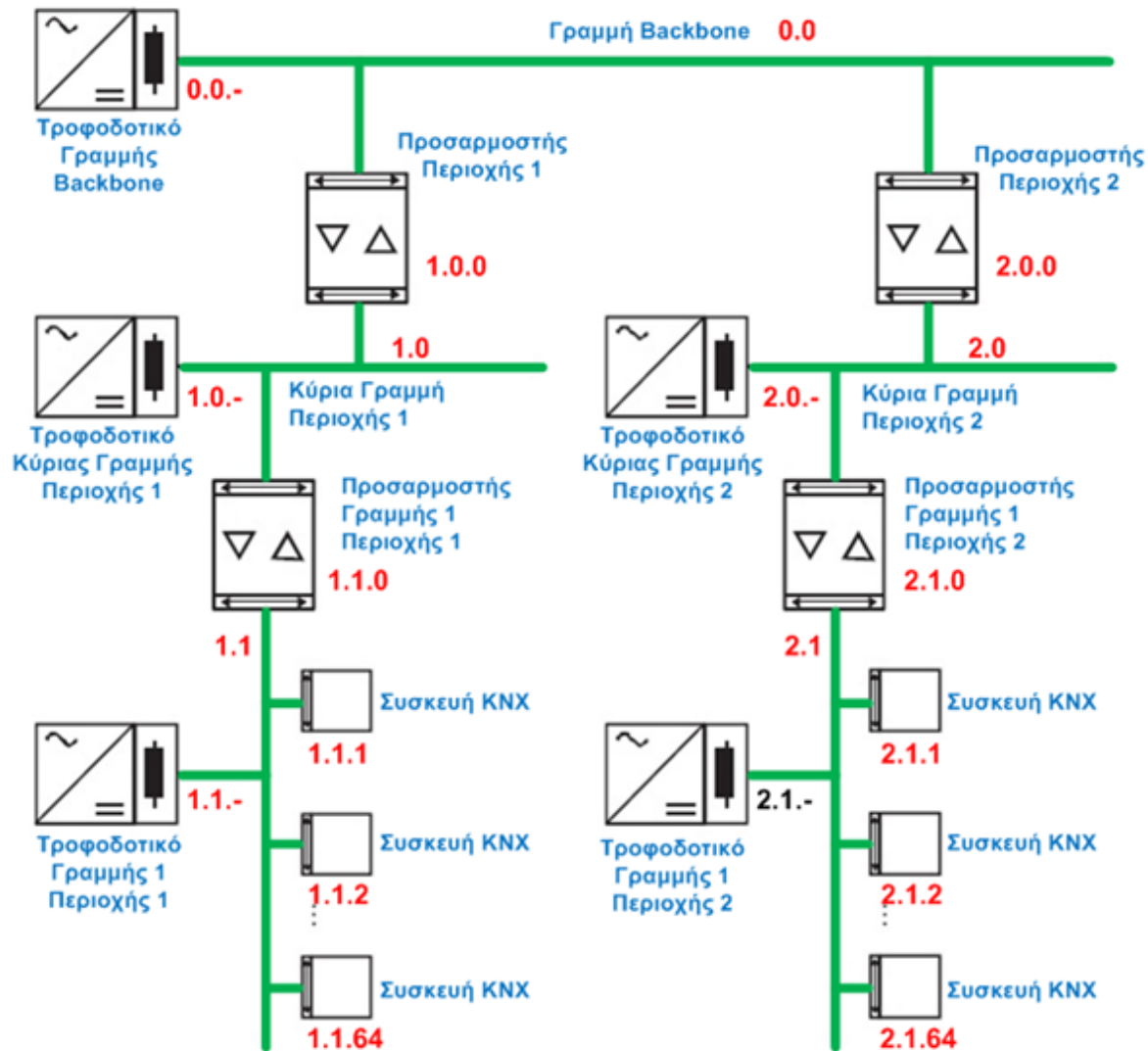
KNX supports several
Communication Media

KNX can be coupled
to other systems

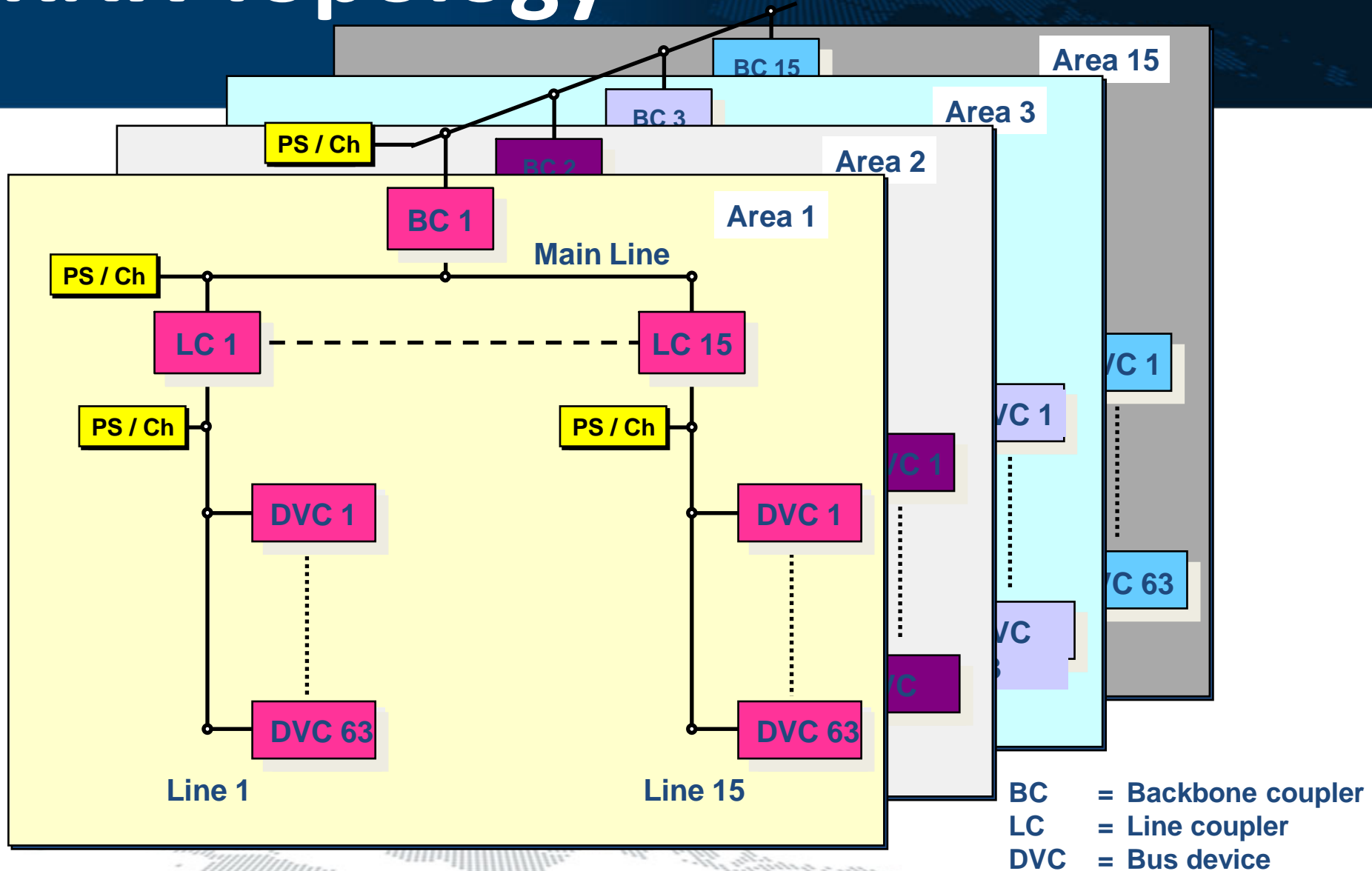
1111



KNX Topology

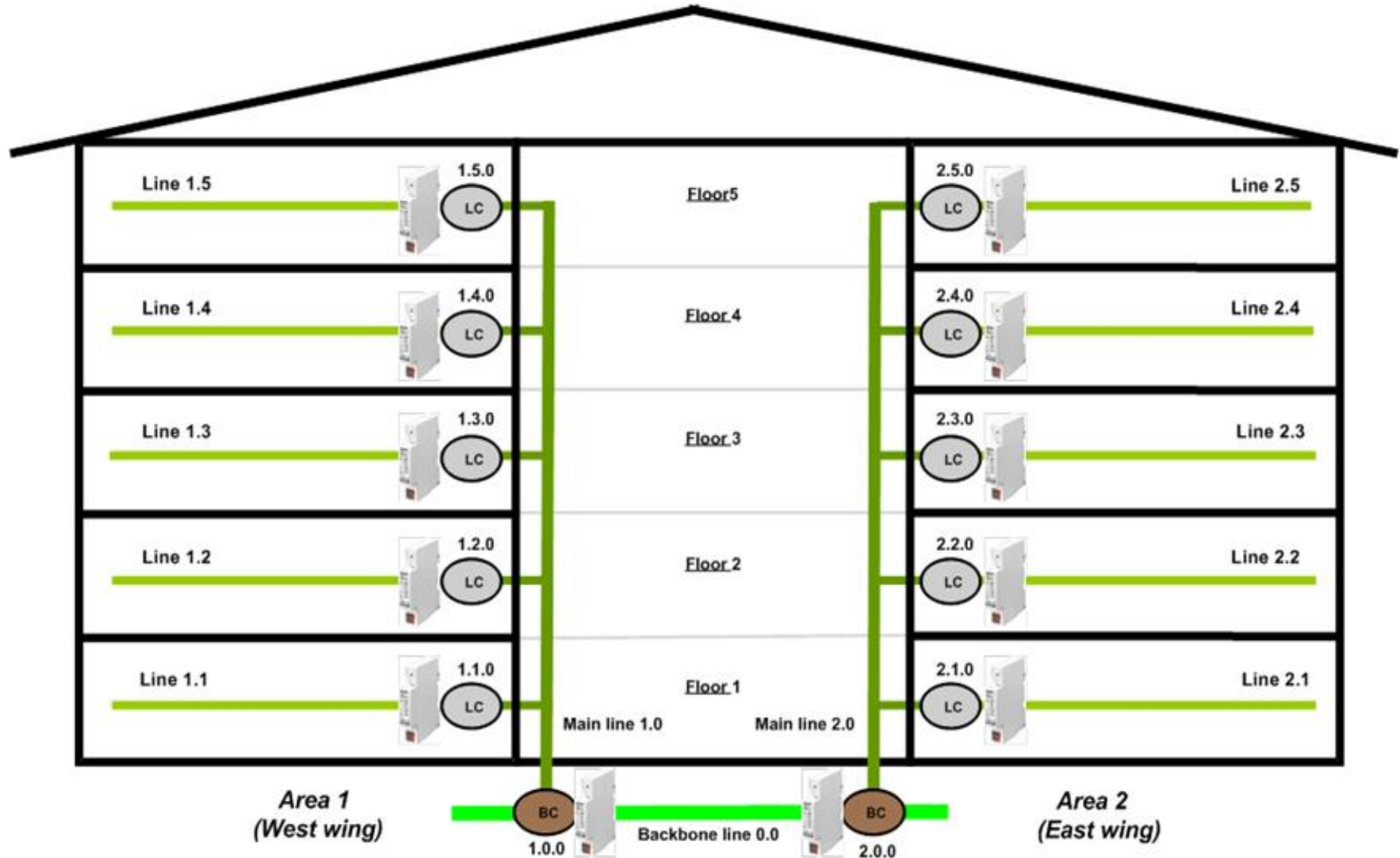


KNX Topology

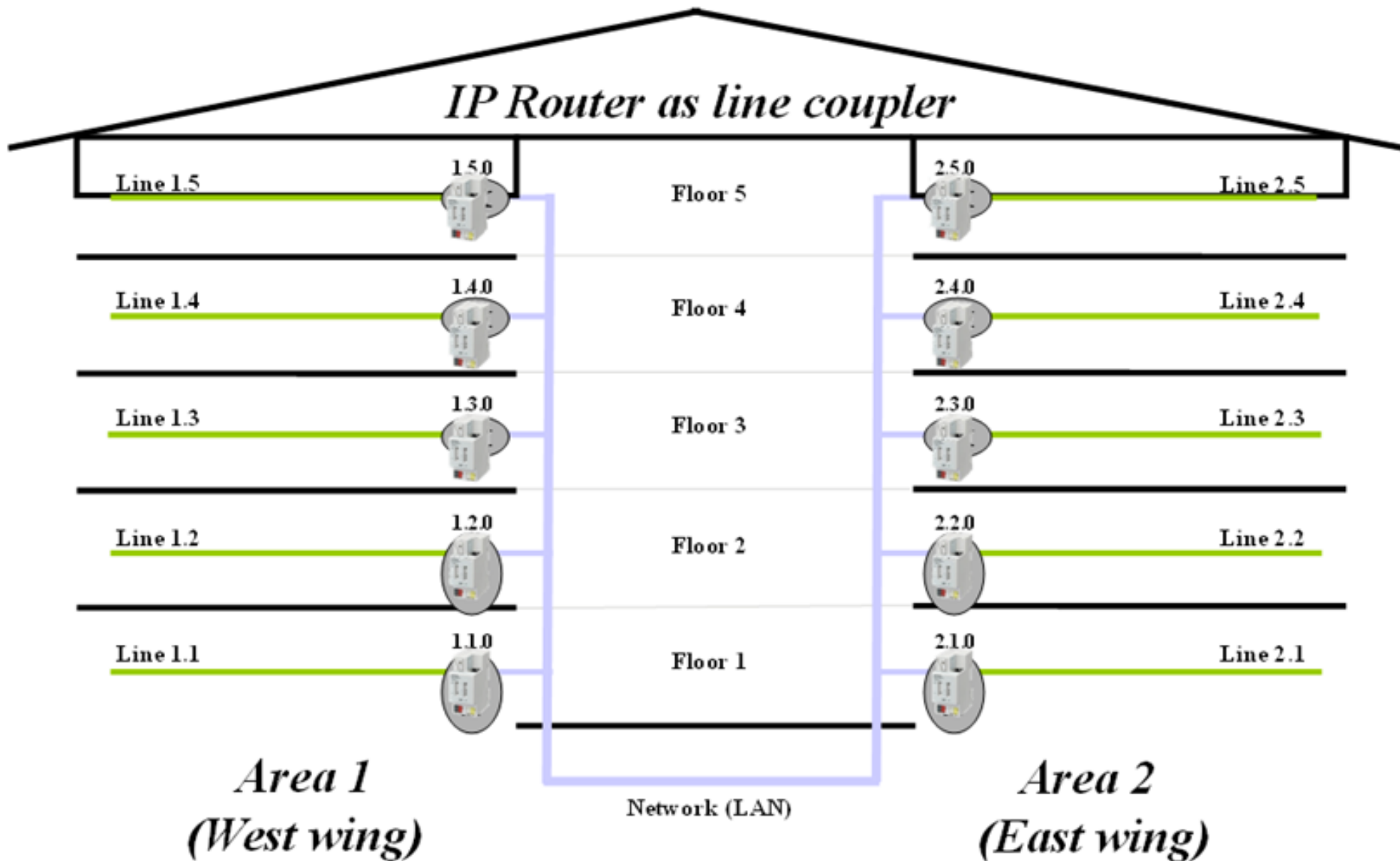


More than 57.000 DVCs in a KNX system

KNX Topology
















KNX Topology





How we put KNX “Things” in action?

The famous Group Address

- ▲  Group Addresses
 - ▶  Dynamic Folders
 - ▲  0 Ισόγειο
 - ▲  0/0 Φωτισμός
 -  0/0/1 L1 Σπώτ Κουζίνας On/Off
 -  0/0/2 L2 Σπώτ Σαλόνι On/Off
 -  0/0/3 L2 Σπώτ Σαλόνι Dim
 - ▲  0/1 Ρολά
 -  0/1/0 R1 Ρολό Υπνοδωμάτιο UP/DOWN
 -  0/1/1 R1 Ρολό Υπνοδωμάτιο STOP
 - ▲  0/2 Κεντρικές Λειτουργίες
 -  0/2/0 Φώτα Ισογείου Off
 -  0/2/1 Ρολά Ισογείο UP/DOWN



Make the connection...

- 1.1.1 Push-button 4-gang plus
 - 0: Switch object A - Push-button 1
 - 3: Switch object A - Push-button 2
 - 6: Switch object A - Push-button 3
 - 9: Switch object A - Push-button 4
 - 12: Switch object A - Push-button 5
 - 15: Switch object A - Push-button 6
 - 18: Switch object A - Push-button 7
 - 21: Switch object A - Push-button 8

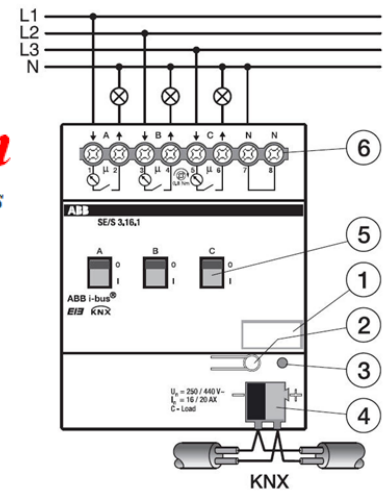


Drag and Drop

- Group Addresses
- Dynamic Folders
- 0 Ισόγειο
- 0/0 Φωτισμός
- 0/0/1 L1 Σπότ Κουζίνας On/Off

- 1.1.2 SE/S3.16.1 Energy Actuator, 3-fold, 16/20A, MDRC
 - 8: General - Receive time
 - 9: Diagnosis - Microcontroller active
 - 51: Diagnosis - Frequency error
 - 60: A: Switching - Switch
 - 62: A: Diagnosis - Status byte
 - 71: A: Contact - Contact monitoring
 - 120: B: Switching - Switch
 - 122: B: Diagnosis - Status byte
 - 131: B: Contact - Contact monitoring
 - 180: C: Switching - Switch
 - 182: C: Diagnosis - Status byte
 - 191: C: Contact - Contact monitoring

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Go Deep into Things





The Swiss Knife

of a Building



















As architects use to say

Bicsi



Point of Art

	BBQ Στον Κήπο	Βραδιά με τις Πορτοκαλιές	
	Βραδιά Jazz Στον Κήπο	Γιορτάζουμε!	
	Πάω Για Ψώνια	Γύρισα από Ψώνια	
	Πάμε Διακοπές	Γυρίσαμε Από Διακοπές	

Designed by
Quantum
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As architects love to say

Bicsi

There is only

one question for you



Bicsi[®]

**Would you like to get
involved with
Building
Automation?**



Bicsi[®]



If yes...



**Your
Building Companion**





The Standard

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**Thank you very
much for your
time**

