



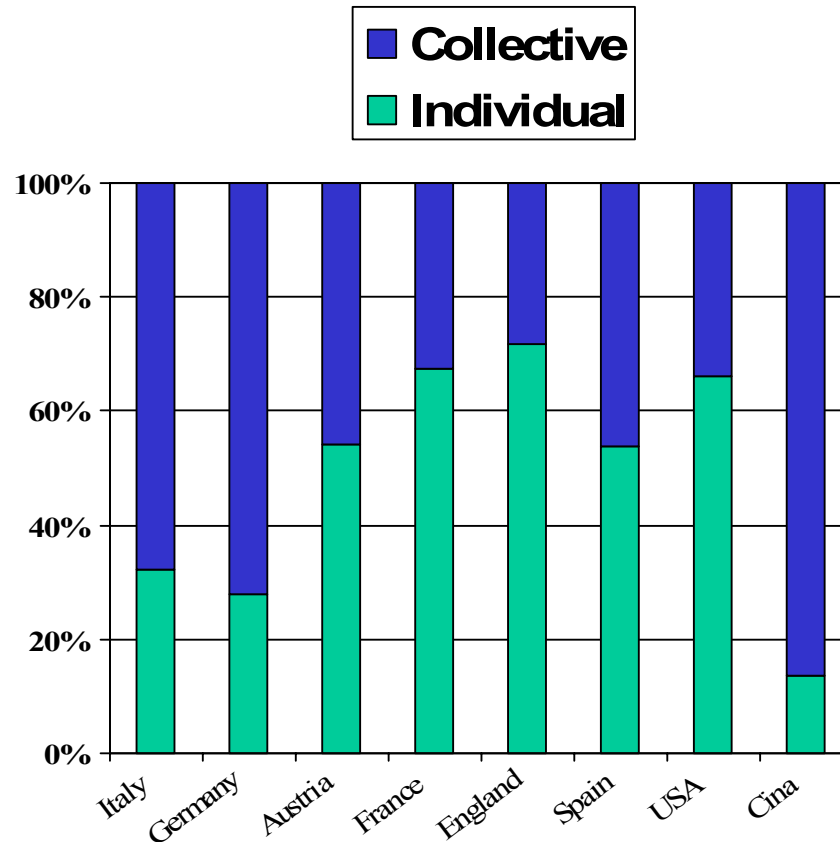
THE DISAN BMS
Building Management System

Presented by Diego Nicolini




Assumption

More and more constructions are built for collective housing, versus individual buildings (villa or single houses)



Share of households living in a house

The indicator shows the share of all households that are situated in single, attached or detached house (versus flat or other accommodation).

	1994	1995	1996	1997	1998	1999	2000	2001
								
EU (15 countries)	46.1	46.8	48.7	49	49.9	51.8	51.8	51.8
Belgium	79.6	75.2	77.2	73.3	75.5	78.4	78.4	80.4
Denmark	46.5	49.8	50.7	50.3	48.3	46.5	49.1	48.1
Germany	21.7	20.5	25.6	26.9	29.3	30.5	30.1	27.9
Greece	78	73.8	76.2	74.6	74.9	76.9	74.7	75.6
Spain	49.4	51.9	52.3	52.7	51.4	54	52.9	53.8
France	53.5	56.2	59	59.8	60.4	63.6	60.3	61.3
Ireland	90.4	91.5	88.6	91	91.1	90.8	93.2	93
Italy	23.2	25.2	27.6	27	27.7	29.6	33.1	32.2
Luxembourg		61.4	61.1	58.5	57.6	59.9	60.4	58.3
Netherlands	52.9 ⁽⁴⁾	59.2	54.7	65.4	65.8	65.3	70.3	72.5
Austria		41.8	42.7	45.1	48.9	51.1	52.8	54.3
Portugal	86.9	88.2	86.3	84.6	82	82.9	82.9	81.2
Finland			44	39.3	44.1	46.8	46.5	47.1
Sweden				34.2	34.6	38.4	36.6	58.7
United Kingdom	73.3	72.9	74.4	73.5	73.7	75.4	75.2	72.5

Source: Eurostat - <http://epp.eurostat.ec.europa.eu>



Assumption

Modern Building => High class residential blocks



Building ground in urban areas => skyrocketing price => hindering developers to single house,

Single or attached house => **typical building for the CVS**

The high price of ground
=> vertical development



On the central residential rings => High-class collective building (residence & flats)



Solution with the small unit

Up to now the solution was represented by small vacuum units, but there are some

Side effects:

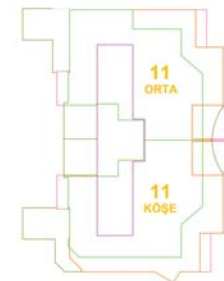
Exhaust venting inside the flat
=> micro-dust, aromatic particles

Venting out of noise on the balcony
=> sound disturbs

Unaesthetic, cumbersome cleaner units on the balcony
=> surface is always smaller

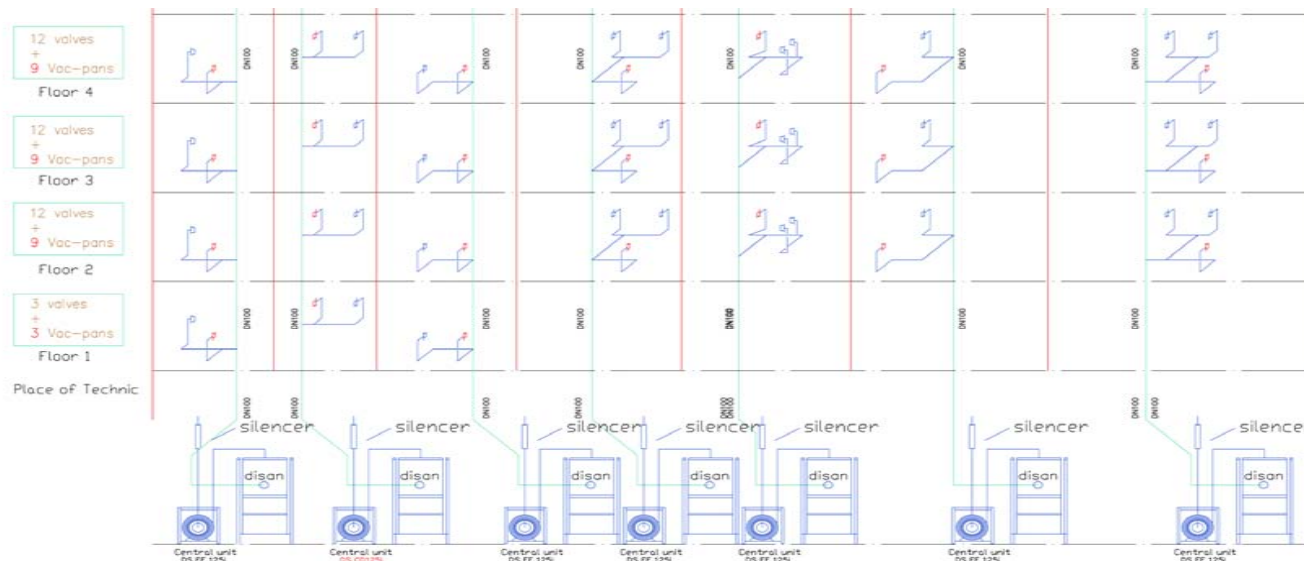
Besides:

For installer/distributors: More complicated to sell
and intensive in organization of work



Problems to get a unique CVS in collective flats

- 1) Responsibility in the running of the system => **maintenance**
- 2) Owners don't need CVS but they use it => **Free rider Syndrome**
- 3) Bad behaviors of the users => no matter what they vacuum
- 4) Difficult to share the expanses => the millesimal is **an approximation**
- 5) Impossible to give the same no of simultaneous users to every flat => **Saturday Morning fever**



THE ULTIMATE SOLUTION – THE DISAN BMS

- Professional systems – **reliable and maintenance free for users**
- The system recognize which inlet is open, how much time, in order to share energy expenses on usage basis. Constant monitoring of the system with complete control of the peripheral inlets
- Saving on the global evaluation of the building – **centralizing the systems is advantageous**
- The system counts the second of which every operators works – **everybody pays per use**
- Limiting with customers satisfaction the simultaneous users => 40 flats with 8 SO
- Precision in the sharing of charges for CVS => reduction and responsibility in the use
- Big advantage: we can check how the systems is really used, improving the features for new application
- Tender unquestionable with Disan !
- Open to follow step: **the KNX standard protocol**



What is the KNX standard protocol ?

KNX (standard) => see www.konnex.org here

KNX is a standardized (EN 50090), OSI-based network communications protocol for intelligent buildings. KNX is the successor to, and convergence of, three previous standards: the European Home Systems Protocol (EHS), BatiBUS, and the European Installation Bus (EIB). The KNX standard is administered by the Konnex Association.



What is the difference for the end-user?

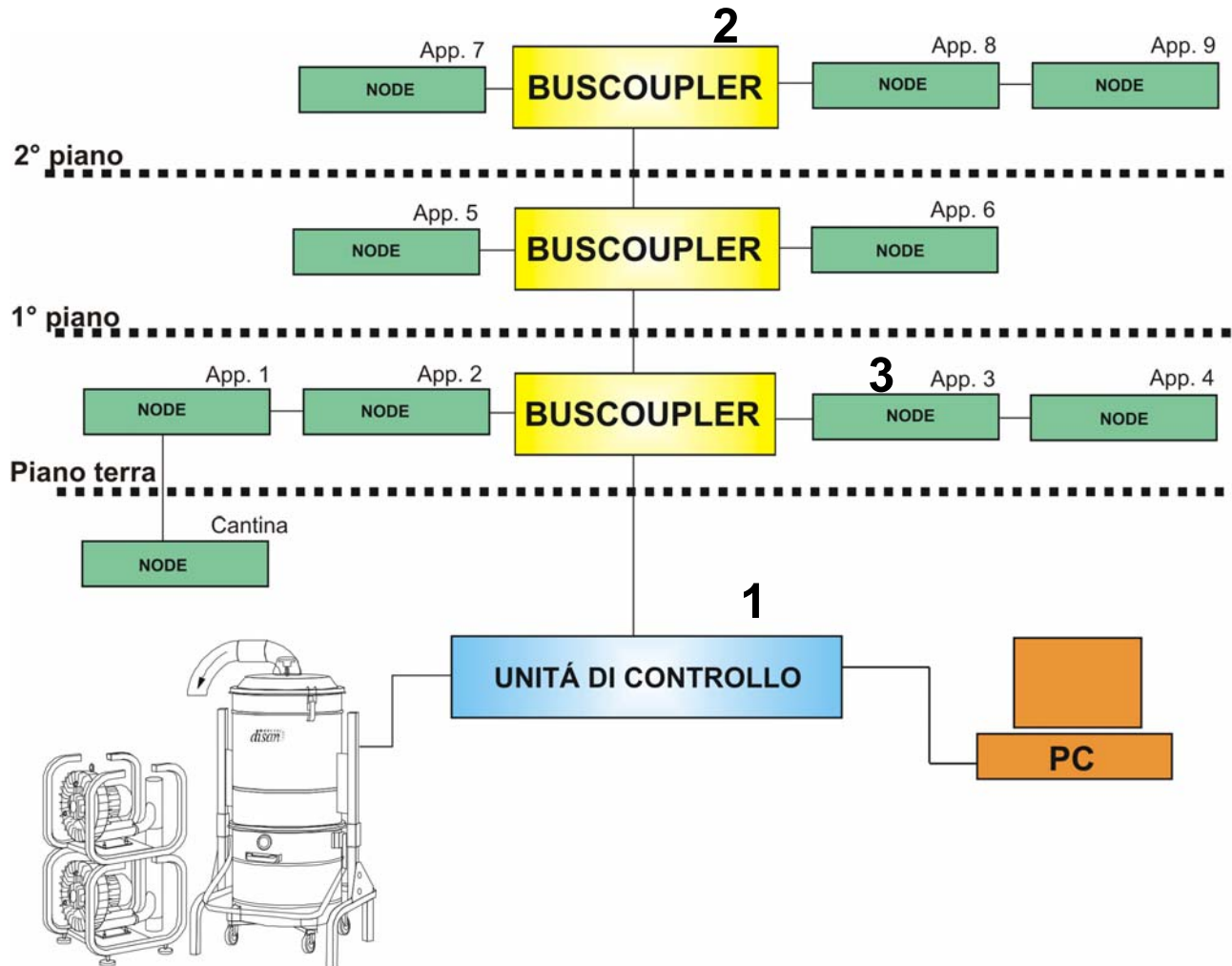
For the end user what change is only a led on the inlet – normally OFF

Every inlet socket is equipped with a led, visible trough the cover, that will flash a red light in following cases:

- System is not available, because of reaching max simultaneous users
- System out of service, for whatever block of the central unit

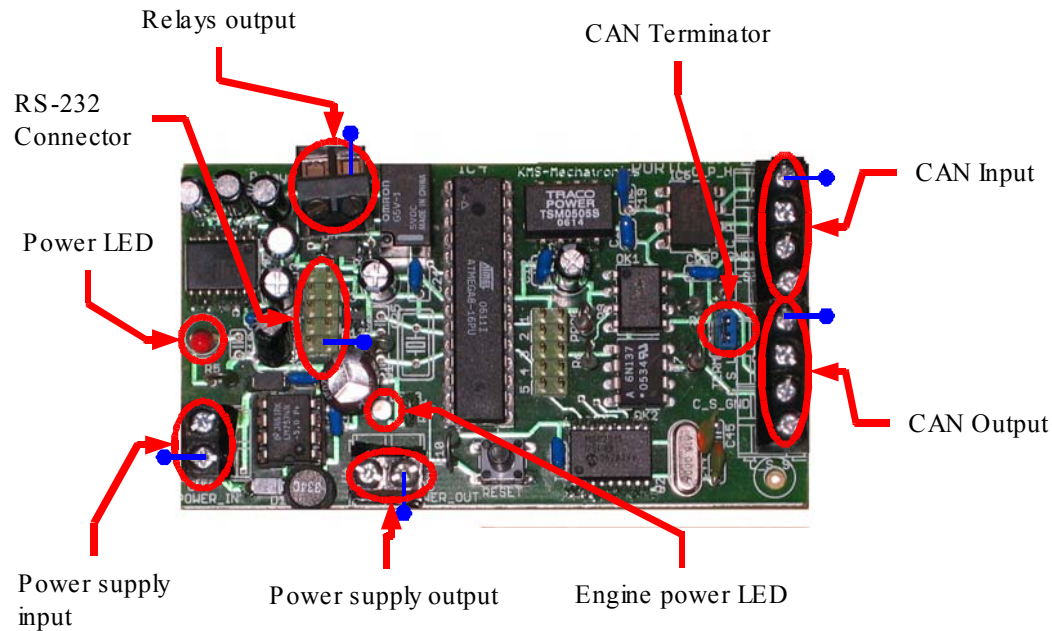


Specification and technique



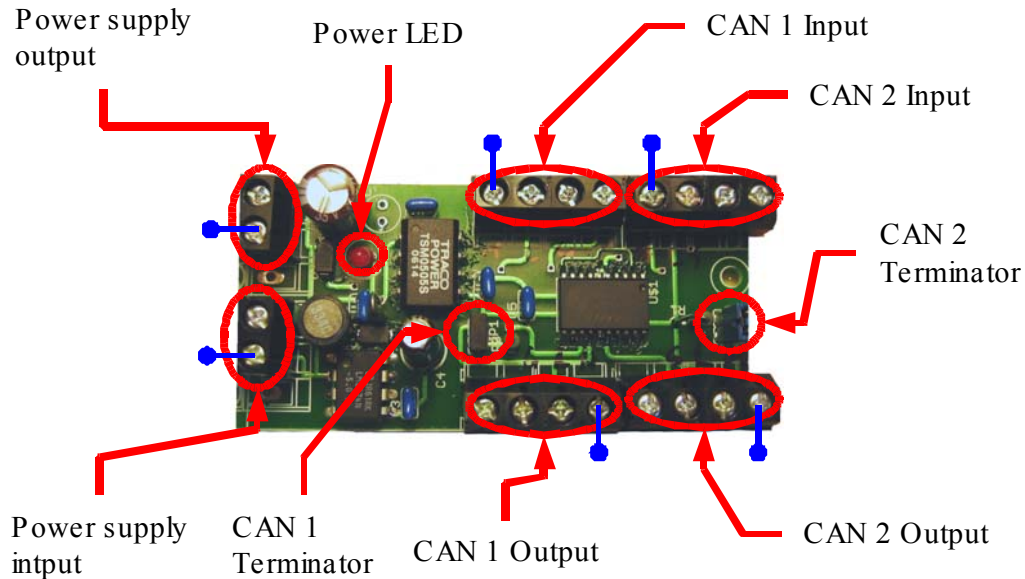
1. The control unit - microprocessor

- This Board supervises all the system and store the data of every user on the microprocessor
- One for every single CVS



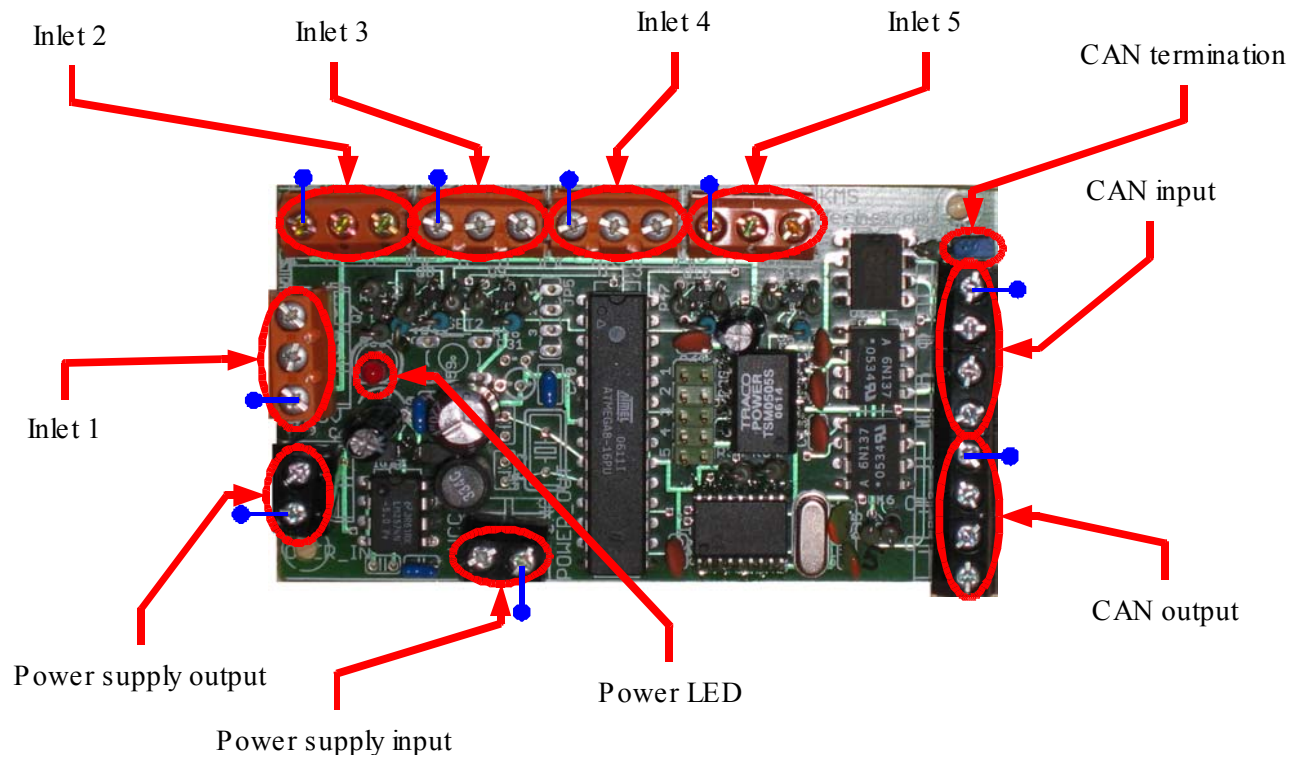
2. The BUS - Coupler

- In order to connect two physically separated bus-lines logically.
- One for every floor



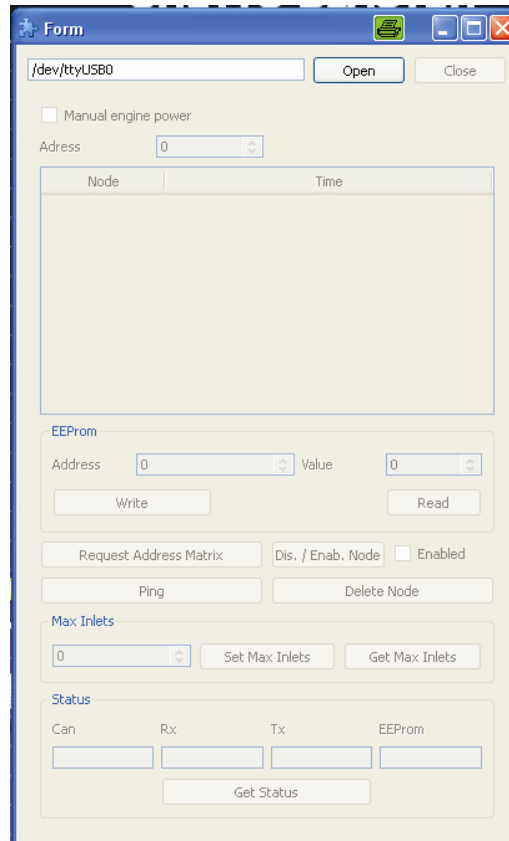
3. The node

- The node transfer the data to the MCB from every single flat
- One in each flat



Reporting of data

Simple visual program to install on whatever laptop



The screenshot shows a software window titled "Form" with a blue title bar. The interface is organized into several sections:

- Device Selection:** A text field contains "/dev/ttyUSB0", with "Open" and "Close" buttons to its right.
- Manual engine power:** A checkbox labeled "Manual engine power" is currently unchecked.
- Address:** A spin box with the value "0" and up/down arrows.
- Table:** A table with two columns: "Node" and "Time". The table is currently empty.
- EEPROM:** A section with two spin boxes: "Address" (value 0) and "Value" (value 0). Below them are "Write" and "Read" buttons.
- Control Buttons:** A row of buttons: "Request Address Matrix", "Dis. / Enab. Node" (with an unchecked "Enabled" checkbox), "Ping", and "Delete Node".
- Max Inlets:** A spin box with the value "0", followed by "Set Max Inlets" and "Get Max Inlets" buttons.
- Status:** A section with four input fields labeled "Can", "Rx", "Tx", and "EEPROM". Below these fields is a "Get Status" button.



Cost calculation

A detailed cost calculation is reasonable only on real projects

More useful at this stage it is having a + quick idea for proposition:

A) Small suburban residential housing

- 18 Flats – 4 floors with 4 flats (90 sqm each) and 2 penthouse (140 sqm each) on 5° floor
- 2 inlets for the normal flat and 4 on the penthouse
- CVS for 4 operators
- Total cost of CVS in this building 23.000 Euro

Cost for every flat: 1.210 Euro

Cost each penthouse: 1.815 Euro

