

# **HUSTUR** INTERNATIONAL Ltd.



#### Who we are:

- Engineering company unique solutions provider
- Producer of the control system SW + HW
- Supplier contractor turnkey delivery

#### What we do:

- Energy saving solutions based on EPC conditions, guaranteed savings
- Inteligent systems for heating, cooling, ventilation in the large spaces (BVS) (administrative and public buildings, schools, hotels, etc.
- Solutions of the control processes and used equipments
- Custom solutions technological defrosting of coal, frost protection in industry production
   based on infrared technologies

#### Our solutions brings:

- Individual thermal management savings achievement
- Original management method radio communication
- Independence from the products of a particular manufacturer the possibility to assemble a solution from a device that is effective for a specific solution





## AGS III - inteligent control system for operating BVS





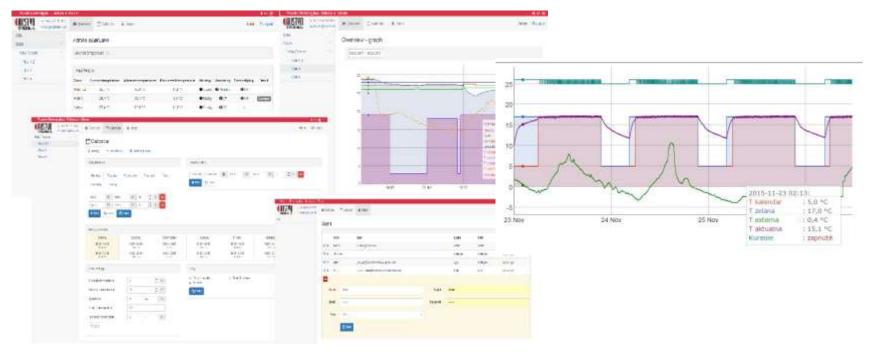
# Products and system components

- Control and monitoring system AGS
  - Server (application) Gateway (communication) Nodes (actuators, sensors)

or SBC with IQRF module (application +

communication) – Nodes (actuators, sensors)

- Web application based GUI (responsive design)
- Scheduler
- Charts
- Reports
- Individual control of each device
- User management
- Smart functions (Intime, Outime, Demax)
- Demonstration





- Web application GUI
- Responsive design

Mont IRP									<u>sk</u> cz e	
AUSTUR INTERNATIONAL Ltd.	\$ +421 903 703 067 ☑ austyn@austyn.sk	Prehľad	💾 Kalendár	🛓 Používatelia 🛛 🖞 M	anuálne ovládanie			Admin	<b>ෆ්</b> Odhlás	
Tabuľka		Ducklord	- 4 -							
Grafy	<	Prehľad zón								
Reportovanie		Vonkajšia teplota: 15,8 °C								
		MONT IRP								
		Zóna Potrubie		Aktuálna teplota	Kontrolná teplota	Požadovaná teplota	Kúrenie O Pripravené	De	tail	
				15,0 °C	18,8 °C	1,0 °C				
		Žiarič 01		12,1 °C	18,6 °C	12,0 °C	Pripravené			
		Žiarič 02		11,8 °C	18,6 °C	12,0 °C	<ul> <li>Pripravené</li> </ul>			
		Žiarič 03		12,3 °C	18,6 °C	12,0 °C	<ul> <li>Pripravené</li> </ul>			
		Žiarič 04		11,6 °C	18,6 °C	12,0 °C	Pripravené			
		Žiarič 05		12,0 °C	18,6 °C	12,0 °C	Pripravené			
		Žiarič 06		12,8 °C	18,9 °C	12,0 °C	Pripravené			
		Žiarič 07		12,9 °C	18,9 °C	12,0 °C	Pripravené			
		Žiarič 08		13,0 °C	18,9 °C	13,0 °C	Pripravené			
		Žiarič 09		13,1 °C	18,9 °C	13,0 °C	<ul> <li>Pripravené</li> </ul>			
		Žiarič 10		12,8 °C	18,9 °C	13,0 °C	• Pripravené			



Scheduler

Heating					
aily intervals					Specific dates
Monday Tuesday	Wednesday	Thursday	Friday		+ Add
Saturday Sunday					
00:00	05:29 🔘	21	÷ °C	×	
05:30 🕲 1	17:00 ©	22	÷ °C	×	
17:01 © 2	23:59 🔘	20	÷ °C	×	

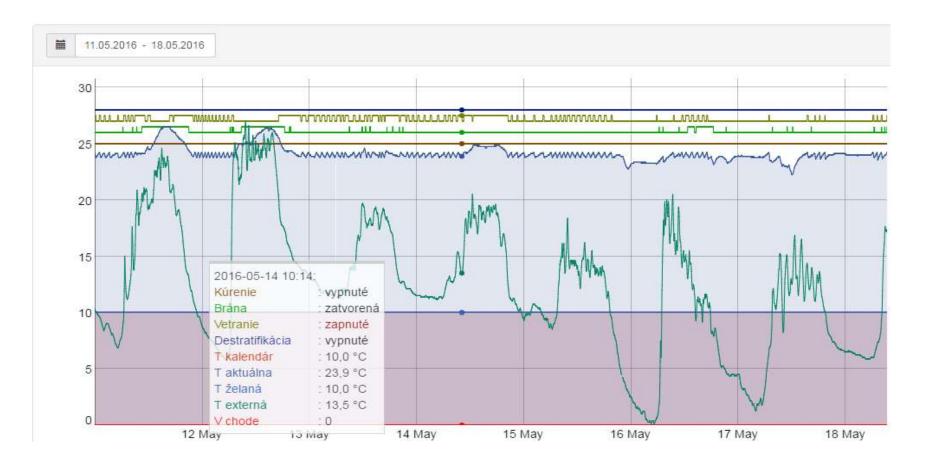
#### Weekly overview

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:00 - 05:29	00:00 - 05:29	00:00 - 05:29	00:00 - 05:29	00:00 - 05:29	00:00 - 05:29	00:00 - 23:59
21,0 °C	20,0 °C					
05:30 - 17:00	05:30 - 17:00	05:30 - 17:00	05:30 - 17:00	05:30 - 17:00	05:30 - 14:00	
22,0 °C	22,0 ℃					
17:01 - 23:59	17:01 - 23:59	17:01 - 23:59	17:01 - 23:59	17:01 - 23:59	14:01 - 23:59	
20,0 °C						





## Control system and monitoring system RS AGS (charts)







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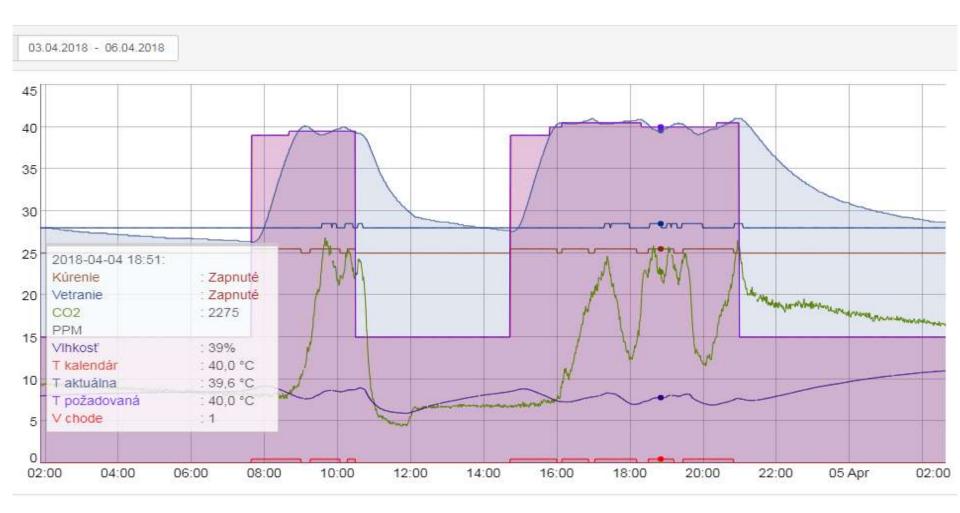
• Smart functions (Intime, Outime, Demax)



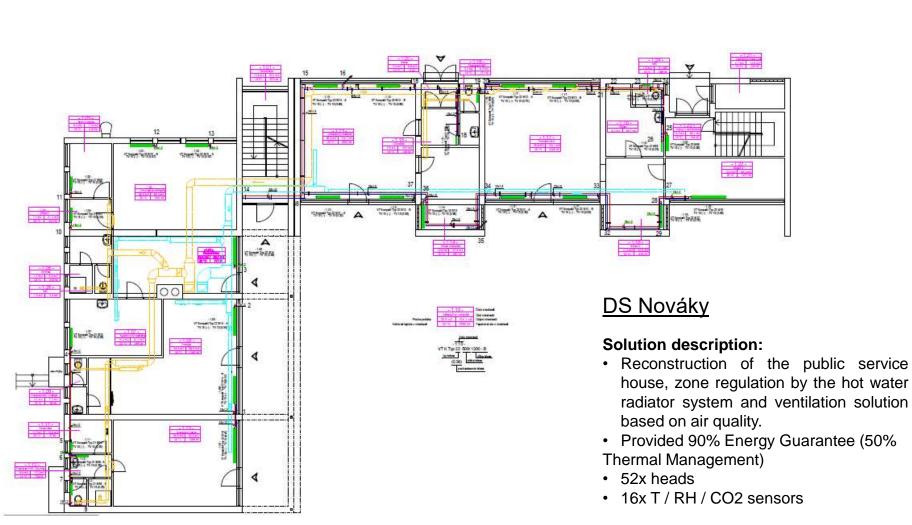




• Smart functions (Intime, Outime, Demax)



## Use case



# Alliance

## Sports hall – Košice

#### Solution description:

• Reconstruction of a hot water heating system cost and operation analysis.

• Construction of electric radiant heating system for playing area and tribunes and electric conventional heating for locker rooms and other spaces.

• Despite higher unit price of electricity - costs are currently 50% lower.

• Installation of smart ventilation based on CO<sub>2</sub> measurement - integration of ventilation system via BACnet protocol.



## Referencies







# Hotel Patria – Vysoké Tatry, Štrbské Pleso

#### **Solution description:**

- 194 heads 8 GW
- Installation of radiator heads in hotel rooms without any construction interventions

• Zone regulation - connected to the booking system , fully automatic operation





# Referencies

# Alliance

## ZVS Sniva – arms industry, Snina

Solution description:

- Unheated BVS
- Antifreeze system in unheated space
- Profile temperature measurements





- MAG RA Wireless digital thermostatic radiator head
  - Radiator valve control
  - Automatic valve adaptation
  - Internal temperature sensor
  - Wired external temperature sensor (optional)
  - Anti-calc and frost protection
  - Open window protection
  - Battery powered (2x Li-SoCl2 3,6V AA) with low voltage alert
  - Anti-vandal protection kit (optional)



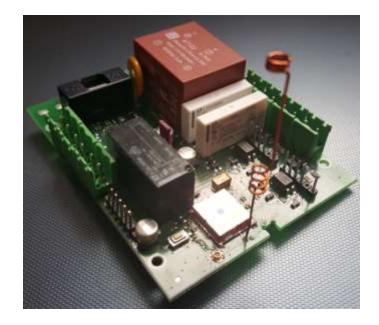


#### • MAG CB (MAG CO) control board

Module is designed as control board for various devices eg. Heaters, lights, pumps, servo-drive etc.

Board is powered form mains and contains following:

- 2(3) relays (5A/230VAC/30VDC) with LED indication
- 1 relay 8A/230VAC(10A/230VAC) output or open/close contact with optional power consumption metering
- DALLAS (DS18B20+) onboard or external jumper selectable
- 2(1) digital inputs 0VAC/230VAC or open/close selectable
- 1 DAC output (0 10V) 5bit resolution
- Bonding button with LED indication
- Reset button (not DCTR module reset) with LED indication
- DCTR-56Dx or DCTR-76Dx module

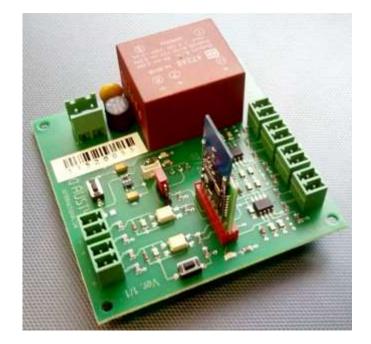




#### MAG ME measuring board

Ready to be connected with various sensors, meters and detectors in order to work as measuring board for physical quantities such as temperature, humidity, gas detection, pressure, occupancy illumination etc. Board is powered from mains and contains the following:

- DALLAS (DS18B20+) onboard or external jumper selectable
- 4 ADC inputs (0-10V) 8bit resolution
- 2 Digital inputs 0VAC/230VAC or open/close selectable
- Bonding button with LED indication
- Reset button (not DCTR module reset) with LED indication
- Slot for DCTR-56Dx or DCTR-76Dx module







# Thank you for your attention

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we looking forward for future cooperation.