OPENING DOORS TO EFFICIENT BUILDINGS

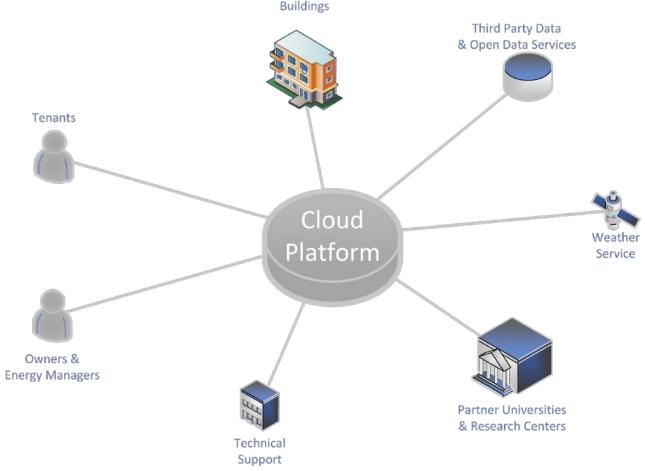
HEART Cloud Platform



This project has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 768921.



HEART Cloud Platform



- Owner & Energy Managers
- Buildings System
- External Services
- Universities & Research Centres
- Platform Technical Support
- Tenants



HEART Cloud Platform



- Registration on the HEART Cloud Platform
- Description of the Building
 - Localisation
 - Envelop, HVAC, Thermal zones, Ventilation System, ...
 - Various Energy Consumption
 - Economical Parameters
- Description of the targets
 - Retrofit Technologies
 - Savings in Energy Consumption

Propose a Set of Options for the Retrofit

- Environmental Impact
- Economical Impact



HEART Cloud Platform

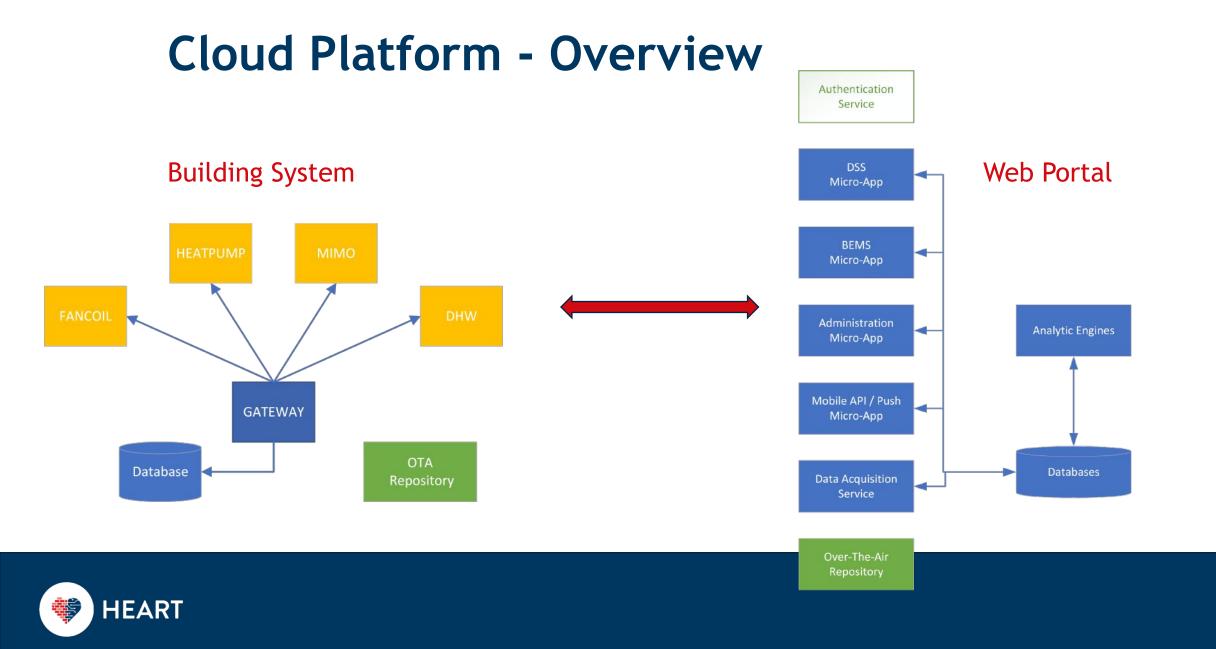




Toolkit is Operational

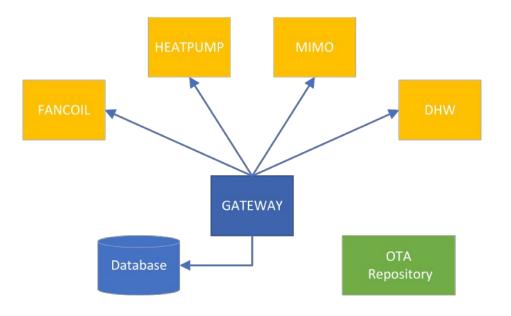
- Energy Dashboards
- Dwelling application
- Academic review





Cloud Platform - Overview

Building System



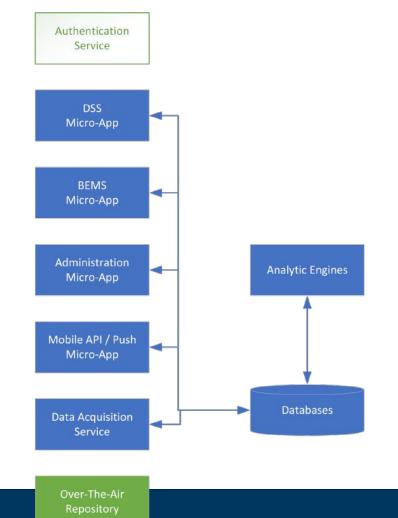
- Collect the data from the different devices
- Transmit the data securely to the web portal
- Forward control command to the devices
- Local control on devices
- Maintain the system up to date
- Store data locally for maintenance support



Cloud Platform - Overview

Web Portal

- Manage user access, privacy and authorisation
- Support the owner in the decision for retrofit
- Collect the data from the different buildings
- Inform owner & facility manager using Dashboards
- Execute calculation & analytics to control building behaviour
- Provide global administration of the system
- Support the updates to the hardware in the building
- Contribute to validation of the analytic models by academic partners
- Store telemetry and control data for further analysis and comparison





HEART

TEST BUILDING

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Administration Portal

Floor	Durolling	Doom	Addmoor	Gardal	Convolution	Description	States
Floor	Dwelling	Room	Address	Serial	Correlation	Description	Statu

Name	Address	Serial	Correlation	Description	Status
HEAT_PUMP_01	http://192.168.1.106:9090	HP01	1BBB59B9-309A-418D-9B5C-EB5E88FD78E2	Info	OFF
HEAT PUMP 02	http://192.168.1.107:9090	HP02	18462EFF-1FAF-4D5F-AF60-61877A4EF049	Info	OFF





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Administration Portal

 TEST BUILDINGS

 LIST OF DWELLINGS
 Pion
 Dwelling
 Tenants

 Floor_01
 APARTMENT_65_02
 First Tenant(tenant)@test.com) New Tenant Children(tenant1@test.com)

 Sever Tenant Children(tenant1@test.com)
 New Tenant Children(tenant1@test.com)

 Sever Tenant Children(tenant1@test.com)
 New Tenant Children(tenant1@test.com)
 New Tenant Children(tenant1@test.com)

 Sever Tenant Children(tenant1@test.com)
 New Tenant Children(tenant1@test.com)
 New Tenant Children(tenant1@test.com)

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Demo Cases	Contact	support@heartproject.io
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Tenant Application

💗 HEART

RESIDENCE "LES MIMOSAS"

PPARTMENT "MY APPARTM	IENT" (B 1-05)
Profile	
MAIN CONTACT	
Jonathan ROUGE	Jonathan.rouge@gmail.com 🚯 +33 0641237353 🚯
LIST OF OCCUPANTS	
Jonathan ROUGE	Jonathan.rouge@gmail.com () +33 0641237353 () kOPI0087()
Jonathan ROUGE	Jonathan.rouge@gmail.com +33 0641237353
	Cancel Ok

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CONSENT PAGE

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I consent

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Tenant Application

💗 HEART **RESIDENCE "LES MIMOSAS"** APPARTMENT "MY APPARTMENT" (B 1-05) Rooms Set Point Tempperature Name 25.C 24.C Living Room 1 24.C 25.C 25.C 24.C Living Room 1 25.C 24.C PROJECT EXPLORE CONTACTS Support support@heartproject.io General Information About Demo Cases Contact vacy Policy | Contact us | Design by REVOLVE | Produced by UsefulRisk, for the Heart Project. in 🕨



😻 HEART

RESIDENCE "LES MIMOSAS"

APPARTMENT "MY APPARTMENT" (B 1-05) Living room

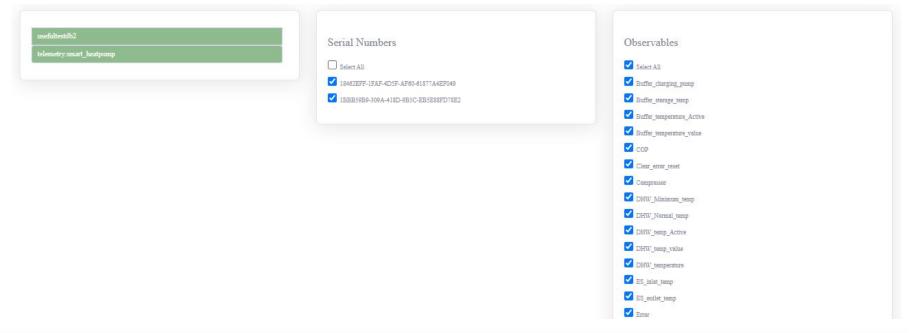
-Set Temperature-**≪**20.C**≫** -Saved this year-150€ PROJECT EXPLORE CONTACTS **General Information** About Support support@heartproject.io Demo Cases Contact vacy Policy | Contact us | Design by REVOLVE | Produced by UsefulRisk, for the Heart Project. 🍠 in 🕩



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Analytic Application



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Analytic Application

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	Fetch Series Reset Page		
Last n Observations: OR Start : - Cleaning None Remove Hard Limits Remove Percentiles (%) 10 zScore Cleaning Regularization 10		Last	
Merge Data			

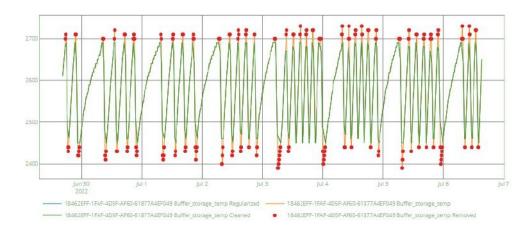


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Analytic Application

18462EFF-1FAF-4D5F-AF60-61877A4EF049 Buffer_storage_temp



18462EFF-1FAF-4D5F-AF60-61877A4EF049 Buffer_storage_temp Regularized

Length:	59942	
	Time	Value at
Frst Obs:	2022-06-29T16:25:00+02:00	2610.00
Last Obs:	2022-07-06T15:05:00+02:00	2610.00
Avg Date:	2022-07-03T03:40:05.009842688+02:00	
MinTimeInterval:	10s	
MaxTimeInterval:	10m0s	
MedTimeInterval:	10s	
AvgTimeInterval:	10.009843012s	
	Value	at Time
Min Val:	2450.00	2022-07-06T14:05:00+02:00
Max Val:	2690.00	2022-07-06T12:45:00+02:00
Avg Val:	2583.58	
St.Dev.:	72.91	

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Decision Support System

HEART						
BUILDING LES N	MIMOSAS					
Designer	-Project Overview-					
Project Overview	DESCRIPTION OF THE BUIL	DING.				
Building Management	Number of floors (conditionned area	s) (A15)	0	\$	floors	
Technologies	Net height of each floor (conditonne	d areas) (A16)	6	\$	cm	р
Facility Management	Gross height of each floor (condition	med areas) (A17)	6	* *	cm	P
Facility Overview	Net floor area of the conditioned spa	uce (A33)	6	*	cm	Ц
Energy Consumption	Ground gross floor area of the condi	tioned space (A34)	0	**	m2	P
	Total surface roof (A19)		6	\$	m2	
Investor	Total surface ground or unheated are	a (A20)	6	\$	m2	P
Investment Overview	Total Surface - North		6	¢	m2	
Economic Parameters	Total Surface - South		0	\$	m2	P
	Total Surface - East		0	0	m2	
PROJEC	т	EXPLORE		CONTACTS		

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RENOVATION PROPOSALS

Decision Support System

IERS	ENERGY		CARBON FOOTP	RINT	COST		
t (A98). 15 €/m2	Expected Global Cost (A98).	26 €/m2	Expected Global Cost (A98).	35€/m2	Expected Global Cost (A98).	30 €/m2	
e (A100) 30 years	Expected Payback time (A100)	32 years	Expected Payback time (A100)	30 years	Expected Payback time (A100)	30 years	
of return %	Expected Internal rate of return (A101)	%	Expected Internal rate of return (A101)	%	Expected Internal rate of return (A101)	%	
energy 0 kWh/m2	Expected Yearly total energy demand (A99)	0 kWh/m2	Expected Yearly total energy demand (A99)	0 kWh/m2	Expected Yearly total energy demand (A99)	0 kWh/m2	
gy Ratio 0 %	Yearly renewable Energy Ratio (A108)	0 %	Yearly renewable Energy Ratio (A108)	0 %	Yearly renewable Energy Ratio (A108)	0 %	
.(A111) kg/m2	Yearly CO2 Emission (A111)	kg/m2	Yearly CO2 Emission (A111)	kg/m2	Yearly CO2 Emission (A111)	kg/m2	
Soloct							
<							
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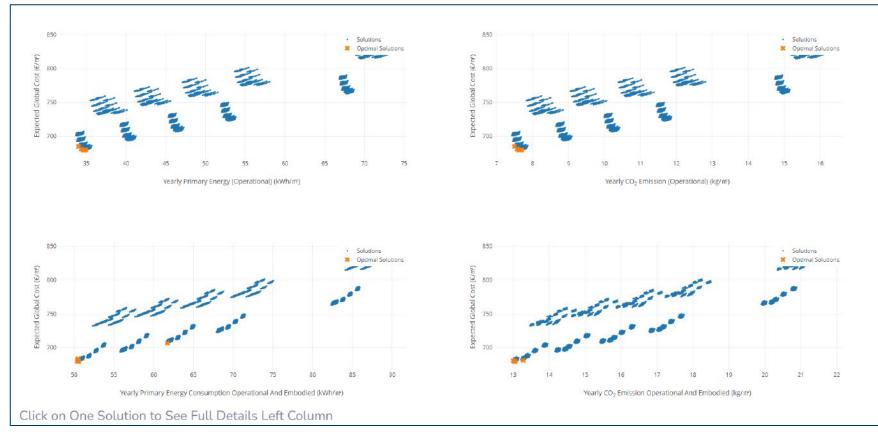


Decision Support System

ow 10 🕈 entries								Search:	
Description	Expected Initial Investment per	Payback Time	Expected Global	Yearly Primary	PVInstalled $\frac{\Delta}{\Psi}$	MIMO $\frac{k}{T}$	Heat Pumps	SmartFanCoilDHW 👙	SmartFanCoilHVACInstalle
latroft Wall Package 1 - 50mm Retroft Roof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows Type 1 PV0	345.1660	23.74	820.83	72.94	o	1	2	12	42
latroft Wall Package 1 - 50mm Retroft Rcof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows Type 1 PV10	371.6847	20.68	739.04	40.12	10	1	z	12	42
letroft Well Package 1 - 50mm Retroft Roof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows $T\gamma pe$ 1 P/4	356.1101	22.10	780.77	58.09	4	1	2	12	42
letroft Wall Package 1 - 50mm Retroft Roof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows $\rm Type$ 1 PV6	361.5822	21.53	76527	51.59	6	1	2	12	42
letroft Wall Package 1 - 50mm Retroft Roof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows Type 1 PV6	367.0542	21.08	752.43	4561	8	1	2	12	42
latroft Wall Package 1 - 50mm Retroft Roof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows Type 2 PV0	352,4004	24.01	822.57	71.61	o	10	2	12	42
letroft Well Peckage 1 – 50mm Retroft Reof Peckage 1 – 50mm Retroft Besement Package 1 – 50mm New Windows Type 2 PV10 –	378.9191	20.91	740.55	38.75	10	1	2	12	42
letroft Wall Package 1 - S0mm Hetroft Roof Package 1 - S0mm Hetroft Basement Package 1 - S0mm New Windows $T_{\rm YPB}$ 2 PV4	363.3445	22.34	782.46	56.75	4	1	2	12	42
latroft Wall Package 1 - 50mm Retroft Rcof Package 1 - 50mm Retroft Basement Package 1 - 50mm New Windows Type 2 PV6	368.8165	21.77	766.90	50.23	6	1	2	12	42
zboft Wall Package 1 - 50mm Reboft Roof Package 1 - 50mm Reboft Basement Package 1 - 50mm New Windows Type 2 PV8	374.2986	21.32	754.00	44.25	в	1	2	12	42

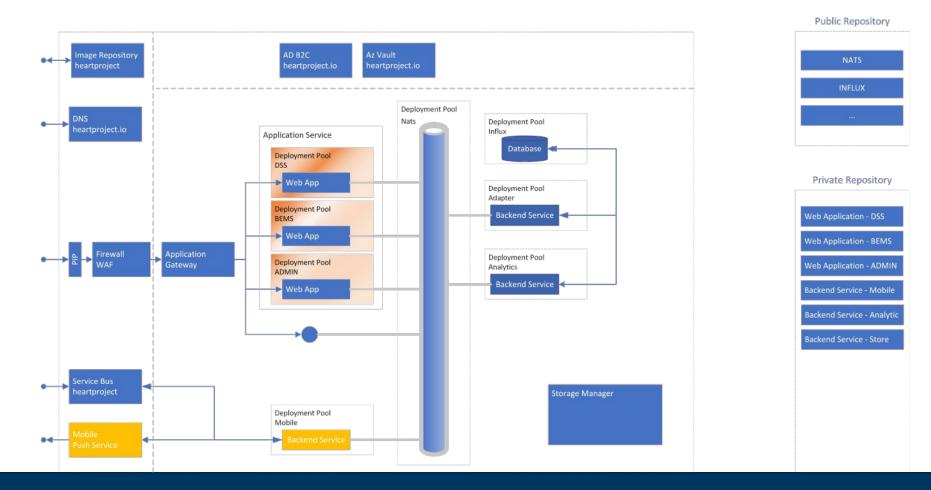


Decision Support System



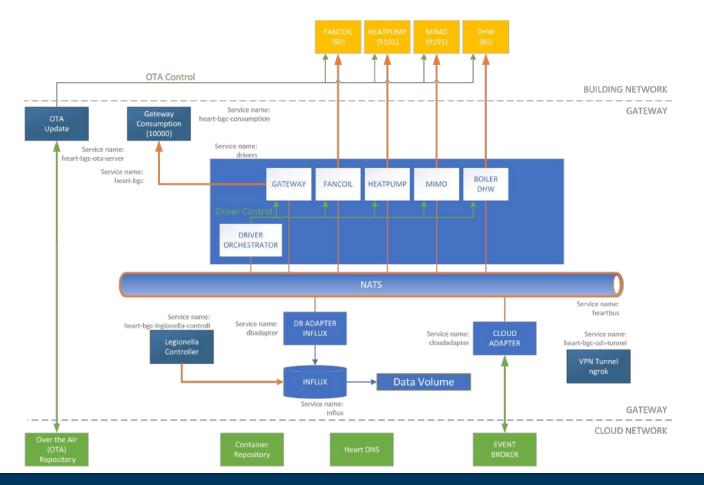


Cloud Platform - Technical



HEART

Cloud Platform - Technical





About HEART

The Holistic Energy and Architectural Retrofit Toolkit (HEART) brings together different components and technologies that can transform existing buildings into smart buildings, thus contributing to the Renovation Wave in order to decarbonise Europe's building stock. In developing this toolkit, the project advances and improves energy efficiency and the use of renewable energies in buildings across Europe, particularly in Central and Southern Europe, where climate change is leading to increased electricity consumption during the summer and winter seasons.

Get in touch



