

### STAY One

Data sheet, resume



#### a. STAY One, platform service

**Expert Systems in Condos** 

- Platform set up
- Quality control for services
- Supplies (consumptions control)
- Cleaning (Service needs and control)
- Security / Access Control (Remote control access and security)
- Maintenance (motors and installations control)
- WIFI in common areas (ubiquitous Internet)
- IoT LPWAN net
- KPI's (Integration of: Tenants, Pattern Behavior, Condo, Common Areas, Services...)

#### **b.** STAY Green, Photovoltaic plant for self consumption

End to end service

- Study of generation
- Pre-construction documentation & negotiations
- Mounting of the supporting structures
- Solar panels and inverters installation & connection
- · Connection to the grid
- Monitoring system setup
- Generation service guarantee (30 years)
- CO2 emission saving
- IBI & ICIO (bonuses)

No CAPEX required, Payback in 5 years (self consumption) Generation approx. per year 10-15K € (for 30 years)



#### c. STAY Supply

Electricity and Water Flat Rate

- Electricity (5.000kWh per year)
- Water (140m<sup>3</sup>)

STAY Supply services and devices included

Deployment Monitoring. Signal collection and control.

- Real-time visualization of variables monitored by measurement point
- Unlimited storage of readings
- Grouping of measuring points into consumption groups / logical groups

Management module.

- · Visualization of consumption, daily, weekly, monthly
- Historical hourly, daily, weekly, monthly or yearly charts
- Comparison of historical hourly, daily, weekly, monthly or annual
- Calculated parameters (averages, maximums, minimums, ...)Identification of deviations
- Reports analysis of consumption, costs and pre-invoice
- Configuration and analysis of energy costs for products and / or services (KPI`S)
- Application of the official rate system

Alarm Module

- Unlimited alarm settings
- Alarm history

#### d. STAY Secure

Intrusion / Occupation service

- HW need to control Home Access
- Connected to a Central Receiver Alarm



#### e. STAY Net

Internet Access (Flat Rate)

- Infrastructure (HW, Routers, Access Points, Switches...)
- Managed Internet Access
- High speed Internet
- Ubiquitous WIFI (Internet everywhere in the building)
- Full network control
- Wireless backup & redundancy
- 24/7 support
- GDPR Compliance
- Symmetric upload and download speeds
- Internet Secure (license)
- Content filtering (if required)
- Secure Web Gateway
- Bandwidth contracted with at least 2 different ISP
- Bandwidth upgrade available, if need
- Without Contracts
- Without Commitments
- Without Permanence

#### f. STAY mobile connectivity (optional if there's not mobile coverage)

Mobile connectivity bubble

- Ensured mobile connectivity, regardless of outdoor coverage antennas
- DAS (distributed antenna system)



#### f. STAY Home

Home automation (Integration of: WIFI + IoT LPWAN)

- HVAC control (in/out of home)
- Home Appliances control (in/out of home)
- Home incident manager
- CO2 level alarm for Indoor Air Quality

Home Appliances (Development: from CAPECX to OPEX by a monthly quote)

- Refrigerator
- Washing Machine
- Oven
- Microwave Oven
- Dishwasher
- Cookers
- Television.
- Air Conditioning.
- CO2 Sensor
- Others

Services for Home Appliances

- Maintenance
- Replacement
- Always Connected (we'll connect not connected appliances)
- SLA 24 x 7



### STAY One

KPI's



### Home entry & exit behavior patterns (unitary & aggregate).

Tenant entry / exit (household occupancy)
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Time spent at home
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Time away from home
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Departures less than a week (days, days of the week, month)
Departures longer than a week (days, days of the week, month)
Added tenant information
Aggregate information, tenant behavior (aggregation levels)
Added Tenants Entry / Exit (household occupancy)
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Departures less than a week (days, days of the week, month)
Departures longer than a week (days, days of the week, month)
Similar Behavior Patterns Among Tenants.



# Tenants: inside urbanization behavior and Traceability within the Condo.

Tenant in urbanization area and habits of use common areas (unitary)
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Tour within the urbanization per tenant
Added information on tenant use common areas
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Agglomerations segmented by each area or common spaces
Use of common spaces (unit and aggregate)
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Dwell time for common spaces, segmented
Agglomerations segmented by each area or common spaces
Dwell time in transit areas
Dwell time for common spaces, segmented



#### Tenant Behavior within the Home. Habits and patterns of behavior.

Consumption Supplies (electricity / water)
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
<b>Use of internet (aggregated and disaggregated information</b>
Bandwidth consumption
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
lavigation on established categories
ype of device
lavegator
/ideo streaming platforms
elecommuting
Jse of e-mail
nstant messaging
Jse of social networks (category)
Check news (category)
/ideos (category)
lavigation in general (categorized or not)
setting alerts on navigation (categorized)
Online shopping (categorized)
Holidays (destination & category)
Offline consumption



#### Tenant Behavior within the Home. Habits and patterns of behavior.

Use of HVAC
Inference in electricity consumption by HVAC
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Use of heating
Inference in electricity consumption by heating
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Appliance use (for each appliance)
Inference in electricity consumption by appliance
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Do they cook or not?
Type of cooking by use of oven, plate, microwave
Total No. of Hours
Hour (hourly fraction) and day of the week
TV
Total No. of Hours
Hour (hourly fraction) and day of the week
Week
Month
Washer / dryer (uses)
Other devices (Alexa, Google Home, Apple Home)



# KPI's Tenant segmentation by use of SNs

	J. KRONOG
Age	
Gender (male/female)	
Place of birth	
Languages	
Education	
Professional development	
Academic background	
Socio-economic level	
Civil status	
Type of family	
Birthday	
Aniversary	
Away from family	
Friends	
New relation	
Business & industries	
Entertainment /hobbies	
Gaming	
Live events	
Movies	
Music	
Reading	
Family & relationship	
Fitness & wellness	
Food & beverage	
Beverage	
Kitchen	
Type of food	
Restaurants	
Hobbies & activities	
Art & music	
Vehicles	
Shopping & fashion	
Beauty	
Sports & outdoors activities	
Outodoor recreation	
Video games	
Digital activities	



Clusters, roles and nodes. Structure of the network, defined in terms of activity and interaction.

Clusters (groups within the community) of Tenants by level of interaction	<u>n</u>
Composition and behavior of the Clusters within urbanization	
Relationship between Clusters, Network structure (within the urbanization	n)
Identification of Roles within each Cluster	
Roles. Degree distribution (number of connections per node)	
Degree correlation	
Node centrality	
We identify the most influential points	
Leading tenants in each Cluster	
Hierarchical structure of nodes and Tenants	
Clusters defined by interest groups	
Cluster Activities (in & out)	
Potential new Tenants by expanding audiences	



# KPI's Services (facility services) + Preventive maintenance + Supplies

Areas susceptible to cleaning

Areas susceptible to cleaning
Hour (hourly fraction) and day of the week
Week
Month
Seasonality (variations with respect to established patterns)
Control over required service compliance
Prediction of auxiliary support based on behavior patterns
Personal tracking within the urbanization
Rates of m <sup>2</sup> / h on personnel
Uptime (availability of services / machinery / facilities)
Downtime (unscheduled downtime due to unforeseen events)
Improved "downtime" ratio through prediction
Backlog (pending activities) per employee with respect to Work Plan
Total hours
Days
Weeks
MTBF – Mean Time Between Failures
Machinery / Facilities
Service personnel
MTTR – Mean Time To Repair
Machinery / Facilities
Service personnel



# KPI's Services (facility services) + Preventive maintenance + Supplies

Day & night access control (pedestrian entrance and parking)
Hour (hourly fraction) and day of the week
Seasonality (variations with respect to behavior patterns)
Tracking and residence times
Visits
Delivey
External maintenance personnel
Facilities / machinery operation
Humidity control in common areas
Temperature control common areas
CO <sub>2</sub> level common areas
Savings in CO <sub>2</sub> emissions in common areas
Day
Accumulated
$CO_2$ emissions savings per home and ranking
PMP - Planned Maintenance Percentage (inferences in maintenance)
Improvements on preventive maintenance on each engine / installation
Reduction in visits for preventive maintenance
Predictive warnings about possible engine / installation failures
Electricity consumption (hour, day, day of the week and seasonality)
KWh per House (hour, day, day of the week and seasonality)
KWh per common area space (hour, day, day of the week and seasonality)
KWh per m <sup>2</sup> (hour, day, day of the week and seasonality)