



Tuya Apartment

Internet of Everything, Apartment of Intelligence

Apartment System Solution Based on the Tuya Smart Platform



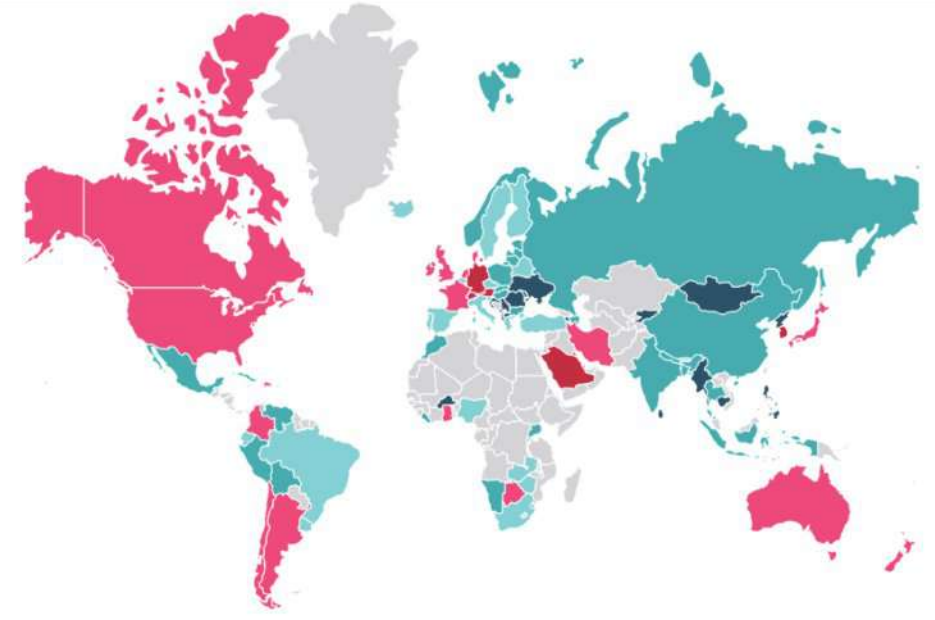
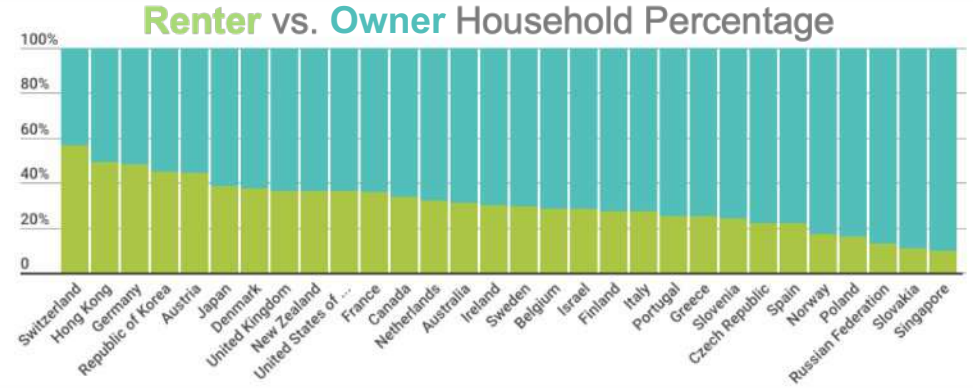
Tuya Apartment



Consumer Spending Habits in the Smart Apartment Market Taking Shape

About Global Apartment Market

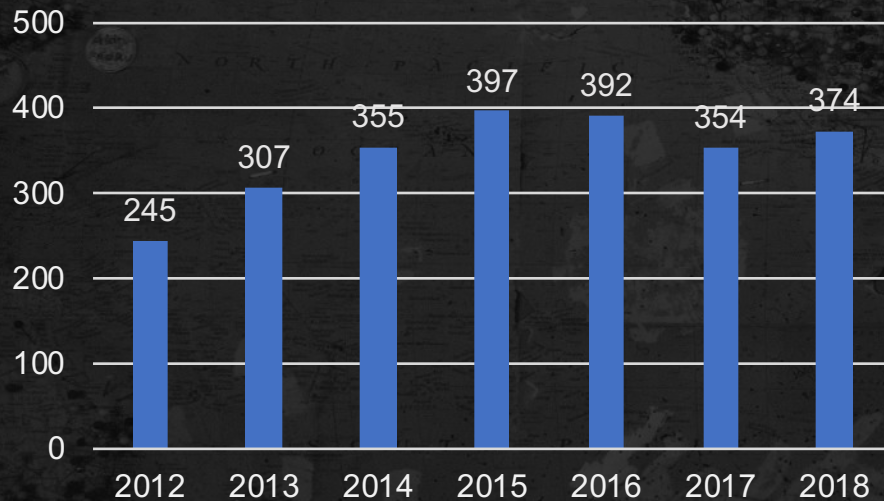
According to market data, the global rental and free housing market in 2018 is as shown on the right. The broad sense of Build-to-rent includes long-term rental apartments, serviced apartments, student apartments, etc. The project is accelerating its popularity in North America, Europe, Australia and other places.



About Global Apartment Market

US

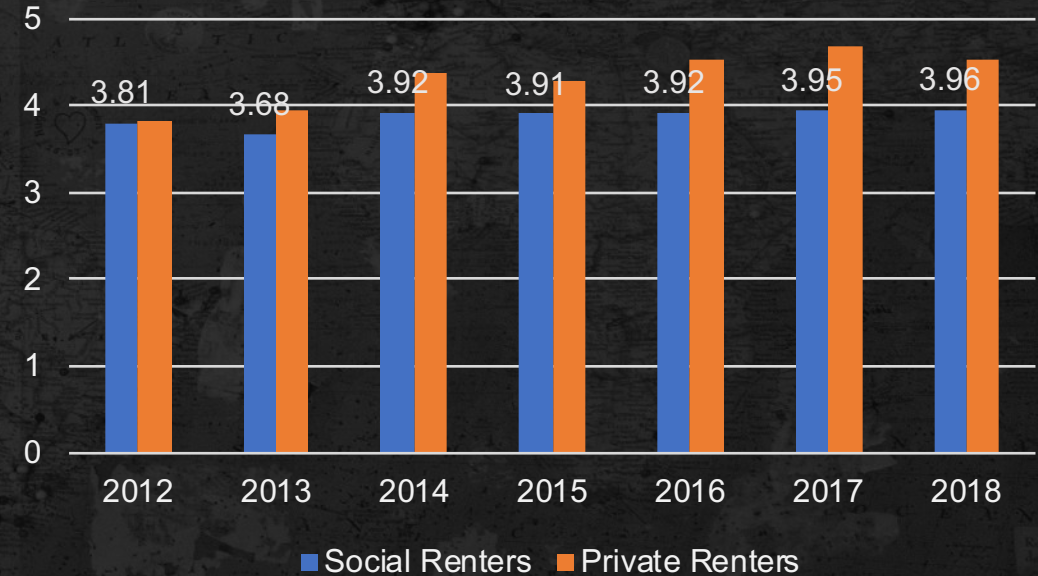
Number of house starts in thousands



There is number of multifamily housing starts in the United States from 2012 to 2018. About 374,000 vacant rental apartments in U.S. in 2018. Apartment SaaS system can improve house management efficiency.

UK

Number of households in millions



There were about 8.5 million rental houses in the UK in 2018, 3.96 million units were provided by social renter and 4.53 million units were provided by private renters.



Tuya Apartment



Consumer SaaS Platform Infrastructure for Smart Home and Apartments Tending Towards Perfection



About Tuya

As Tuya provides a global-leading AI+IoT platform that brings smart products to life for manufacturers, brands, OEMs and retail chains. The platform offers hardware access, cloud services and app development. Tuya also helps brands upgrade their technology and business models, enabling them to deliver smart devices to meet consumer demand.

40 million+

Daily AI voice interactions

100 million+

Devices launched in
the global market

7

Global security
compliance certificates

180,000+

Global clients

90,000+

Powered by Tuya products

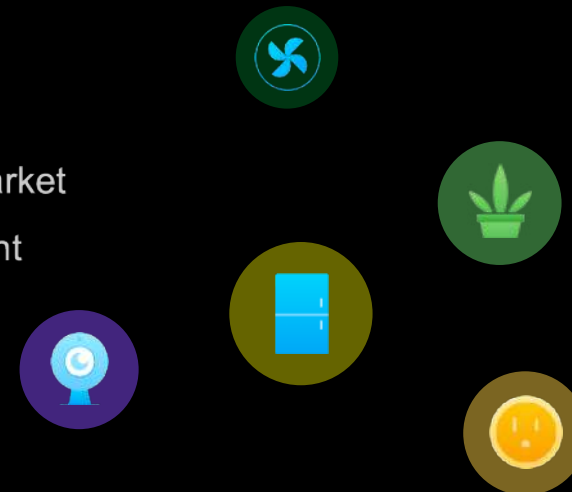
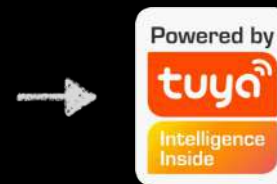
190+

Countries and regions
covered

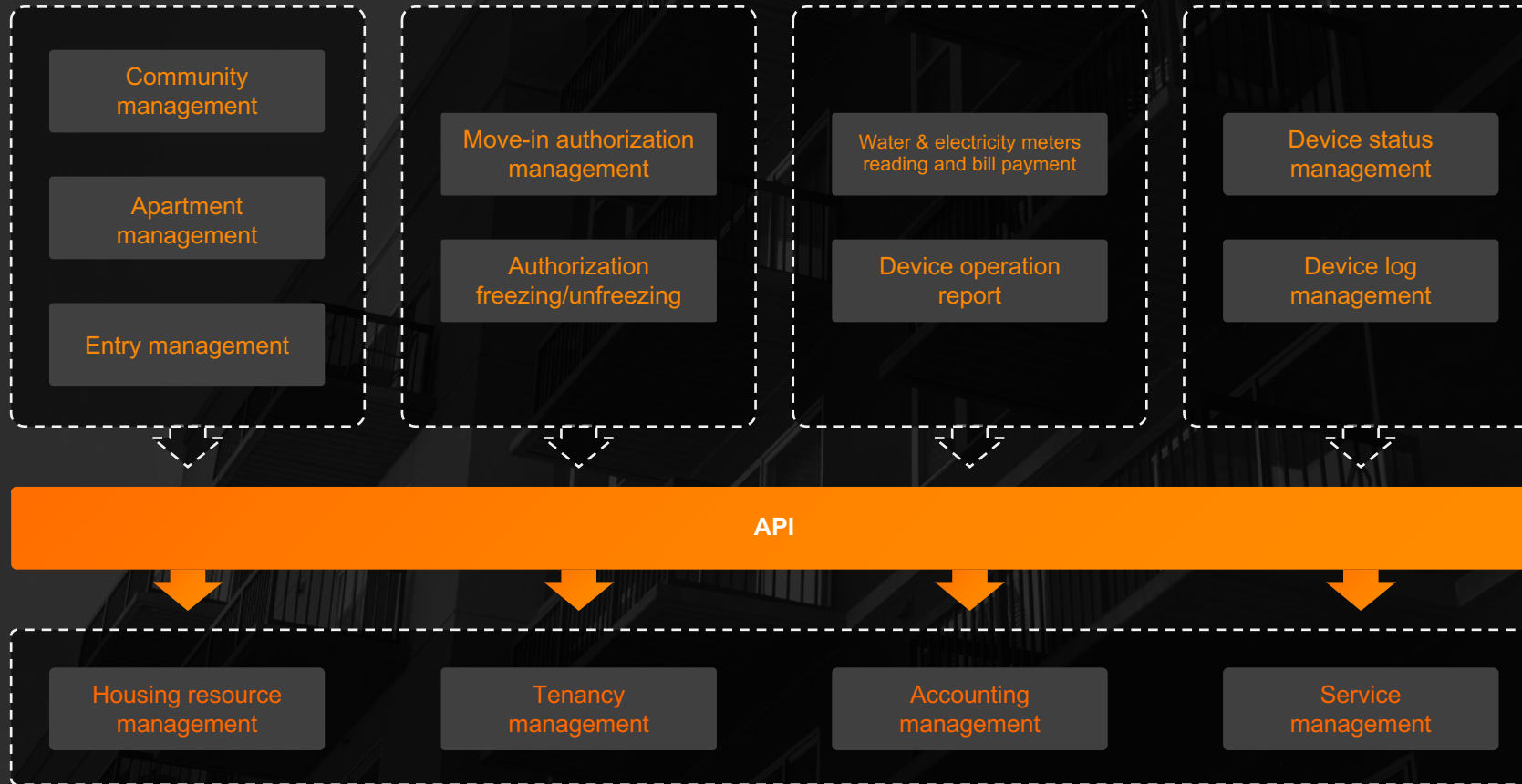
About Powered by Tuya

Powered by Tuya® (PBT) is a label that shows interconnectivity with which devices can interact directly across different brands and categories and be controlled in just one app.

Tuya integrates industry resources, taking electricity and water meters, and smart locks as the market entry points. With over 90,000 PBT devices, Tuya offers one-stop smart solutions for the apartment rental industry, promoting that industry's rapid high quality development.



Apartment SaaS \neq PMS



Consumer Spending Habits in the Smart Apartment Market Taking Shape



Rental apartment

Provide smart door locks and online management for water and electricity meters.



Co-working space

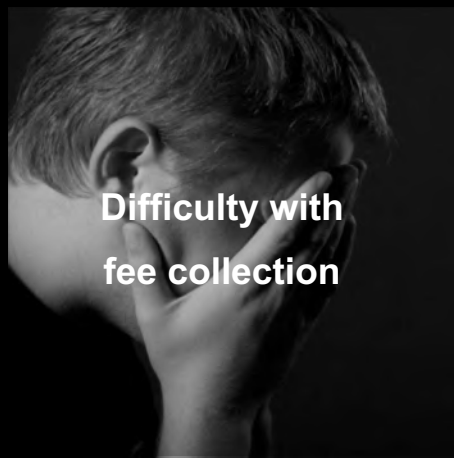
Provide device and energy control solutions.



Employees' or students' dormitories

Support campus cards.

Industry Pain Points



Solutions

Smart door locks enable remote door opening so that apartment managers do not need to deliver keys by themselves.

Smart water and electricity meters enable quick meter reading.

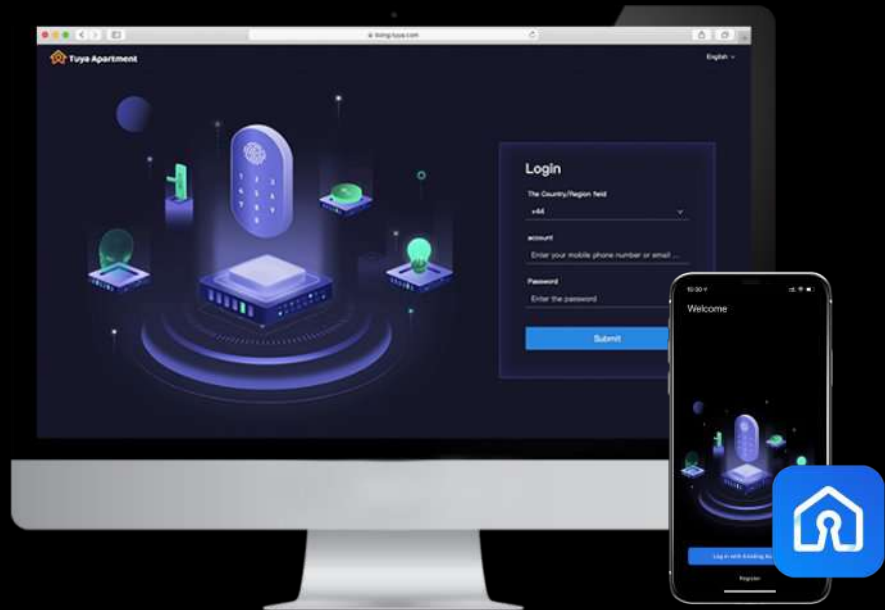
Smart door locks ensure consistency between the tenancy term and the door lock authorization term. When the tenancy term expires, the door lock authorization will be invalid and the tenant can renew their lease to regain the authorization. If the tenant fails to pay utility bills before the deadline, the water and power supply will be cut off through the smart water and electricity meters.

With smart devices, all housing resources, personnel, and devices are managed online. A digital system analyzes the rental status of housing resources, tenants' habits and preferences, and energy consumption. The operation strategies can be adjusted in a timely manner based on the data analysis.

The access control is based on facial recognition. Visitors' faces are scanned before the access is permitted, and unauthorized visitors are denied access. Smoke sensors, gas sensors, and other sensors are equipped for quick exception identification, so as to ensure the rental environment safety.

Tuya Apartment Solution

As a set of software focusing on the management of intelligent hardware devices, Tuya Apartment SaaS helps apartment managers better manage their apartments based on the logs and data generated during the use of the devices. With open APIs, mainstream property management systems (PMS) in the industry can be seamlessly connected to customers' private apartment management systems, enabling easy management. Moreover, the system contains landlord, tenant and construction apps to provide a one-stop solution. The system also allows OEM partners to develop their own apartment SaaS platform.



Tuya Apartment SaaS

Rental Management
(Landlord App)



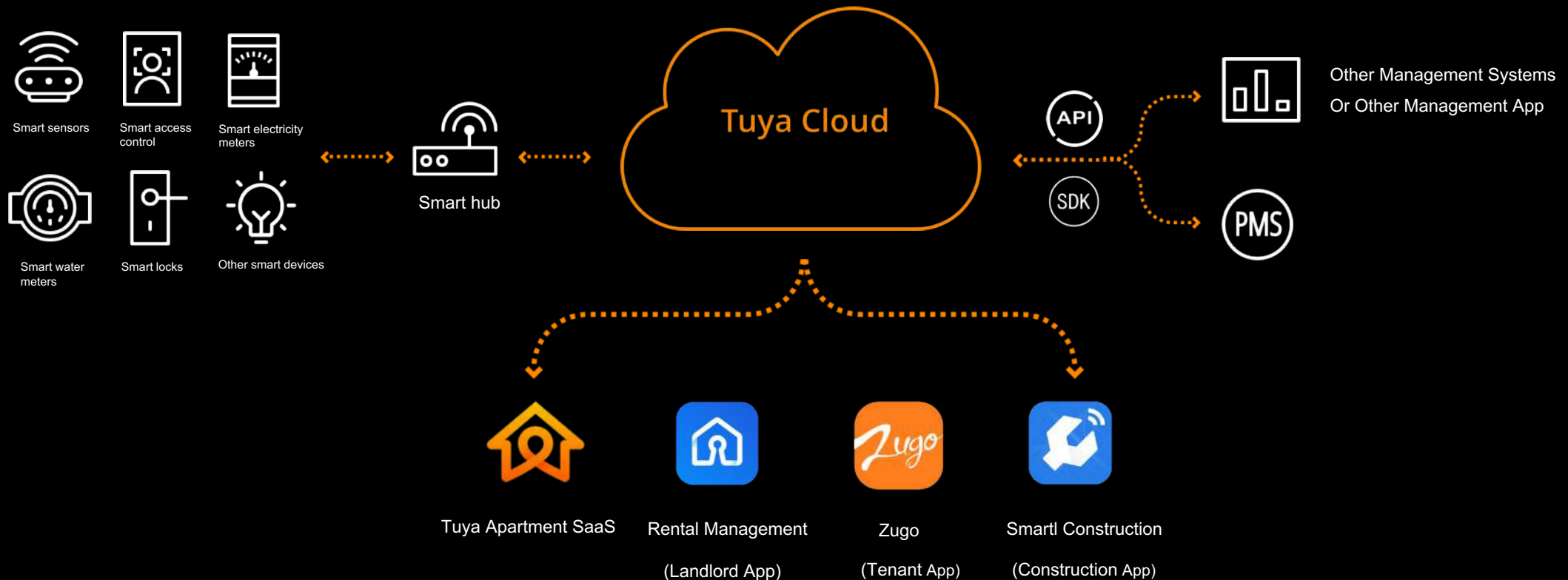
Zugo
(Tenant App)



Smart Construction
(Construction App)

Solution Topology

Tuya Apartment offers an integrated solution for apartments covering smart door locks, water and electricity meters, smart home systems, and cloud migration of hardware devices, including device access, basic IoT services, business platforms, SaaS and application systems, after-sales and installation and maintenance services, the solution meets the demands for low cost, high efficiency, unified management, data visualization, energy saving, and revenue growth.





Tuya Apartment



Tuya Apartment SaaS Apartment System Solution Based on the Tuya Smart Platform

Tuya Apartment SaaS 9 Core Functions, Enabling Daily Operation

Authorization management

Include move-in authorization and construction authorization.

Device management

Display the online/offline status of all devices.

Housing resource management

Support community management and apartment management.

Scene management

Support device and intelligent scene configuration, it can realize one-click application to different room.

Account management

Allow users to add, modify, or delete accounts and configure permissions for an account.

Meters management

Enable quick meter reading and query for meter records.

Energy management

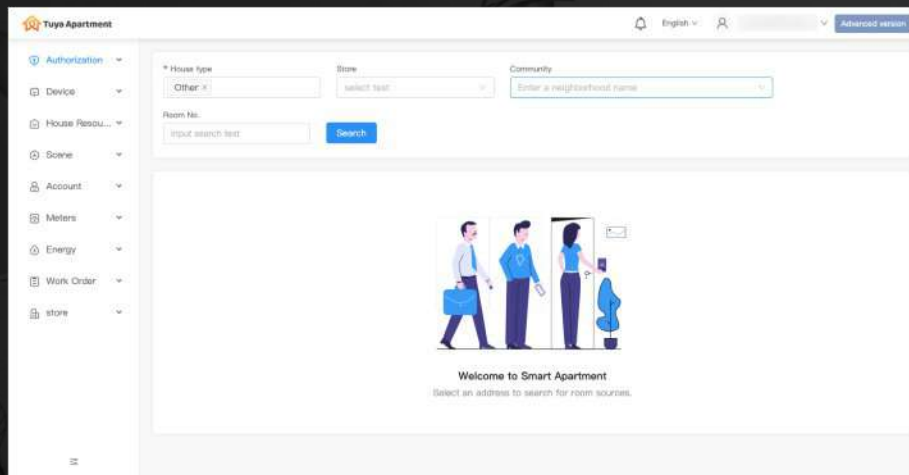
Collect statistics on electricity consumption and supports query for specific areas.

Work order management

Realize the maintenance of the tenant app, and generate maintenance tasks with one click.

Property management

Manage different communities by property



Tuya Apartment SaaS - Operation Process



Tuya Apartment SaaS - Creating a Housing Source

Before device installation, the apartment manager must create a housing source by establishing the basic property structure based on the community, entry, and apartment.

Add a community

Accurate to the street

The screenshot shows a 'Create Neighborhood' modal form. It includes a 'Neighborhood Name' input field, an 'Area' dropdown menu currently set to 'Cambodia', and a 'Select' button. Below the dropdown, a list of countries is visible, including Cambodia, Malaysia, Saudi Arabia, Singapore, HKSAR, and the Philippines.

Add an apartment

Accurate to a room in the apartment

The screenshot shows the 'Add Room' form. It features a 'Neighborhood' dropdown set to 'America/California/4114 Sepulveda Blvd', a 'Room Type' dropdown set to 'Common Room', and a 'Room Information' section with a dropdown set to 'Building+Unit+Suite+Room'. An '+ Add Room' button is at the bottom.

Apartment added

Displayed in the apartment list

The screenshot shows the 'Apartment added' view. It displays a table with one entry: '11buildingEunit1342room' with a 'Common Room' type and 0 guests. The interface includes a search bar and a list of actions like 'Check-in Au...', 'Check-in Re...', 'Construction...', 'Repair Autho...', and 'Repair Recor...'.

Tuya Apartment SaaS - Device Installation

The apartment manager delivers an installation task in a designated apartment on the SaaS platform and configures devices for the apartment by using the construction app, so that tenants can view and use the devices later.

The screenshot shows the Tuya Apartment SaaS interface. The sidebar on the left contains navigation options: Manage Aut..., Check-in Au..., Check-in Re..., Construction..., Repair Autho..., Repair Recor..., Device Man..., House Reso..., Scene Mana..., Account Ma..., Manage Me..., and Energy Man... The main content area displays a list of rooms under the heading 'America/California/4114 S...'. A room '11buildingEunit1342room' is selected, indicated by a blue checkmark. A modal window titled 'Zigbee Device' is open, showing tabs for 'Zigbee Device', 'WI-Fi Device', and 'Bluetooth device'. The 'Zigbee Device' tab is active, displaying a list of device categories: Gateway, Security, and others. The 'Security' category is expanded, showing various sensors and detectors: Door Lock, Door & Window Magnet, Temperature and humidity sensor, Water Leak Detector, Audible and Visual Alarm, Smoke Detector, Gas Detector, DID Motion Sensor, Vibration Sensor, and Pressure Sensor. The modal window also has 'Cancel' and 'Confirm' buttons. The main content area has a 'Construction Personnel Information' section with a dropdown menu and a 'Device' section with an '+Add Construction Device' button. The 'Authorize Room Construction' section has an 'Authorize' button. The interface is annotated with numbered callouts (1-4) pointing to specific elements: 1 points to the room selection, 2 points to the personnel information dropdown, 3 points to the 'Confirm' button in the modal, and 4 points to the 'Authorize' button in the main content area.

Select the apartment that requires device installation

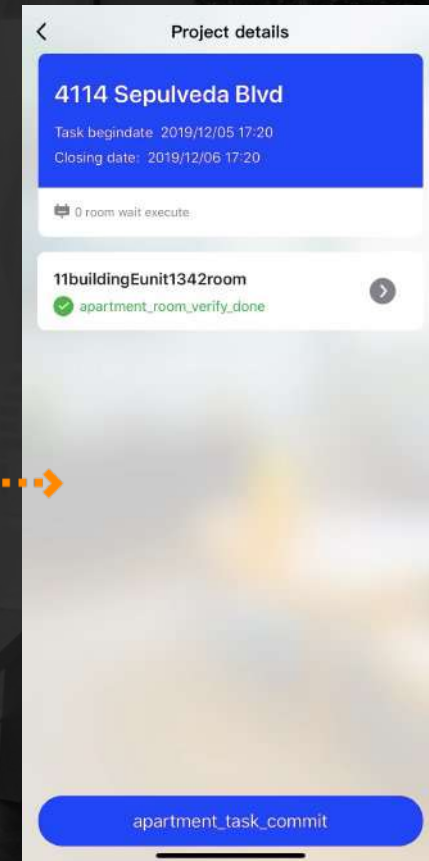
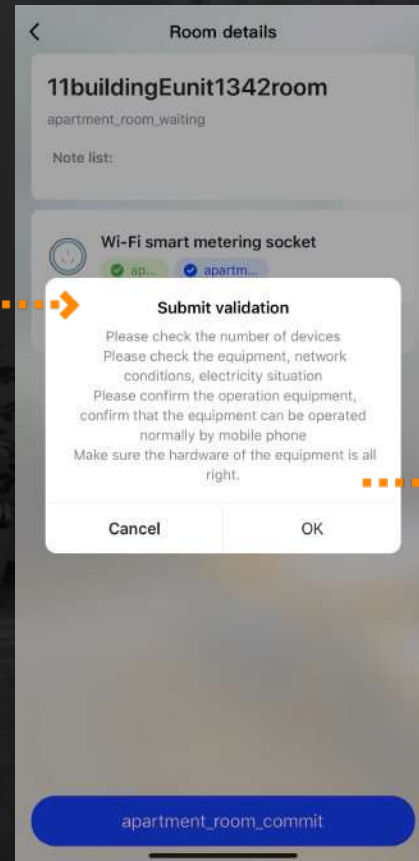
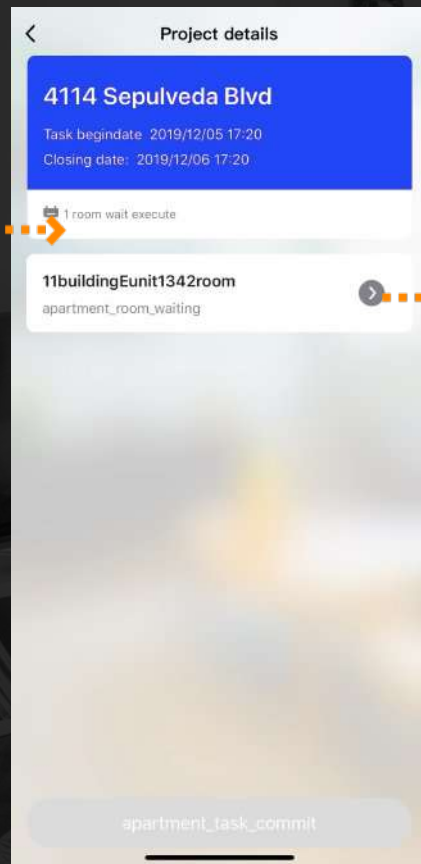
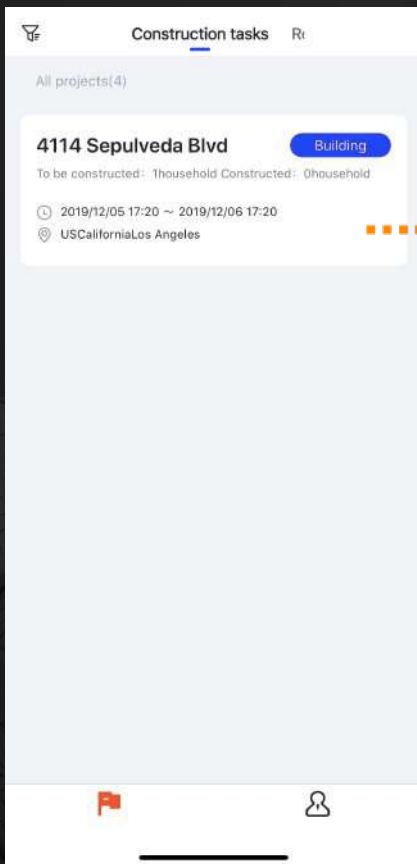
Enter information about the installation personnel

Select the devices to be installed

Click Authorize to issue the task

Tuya Apartment SaaS - Device Installation

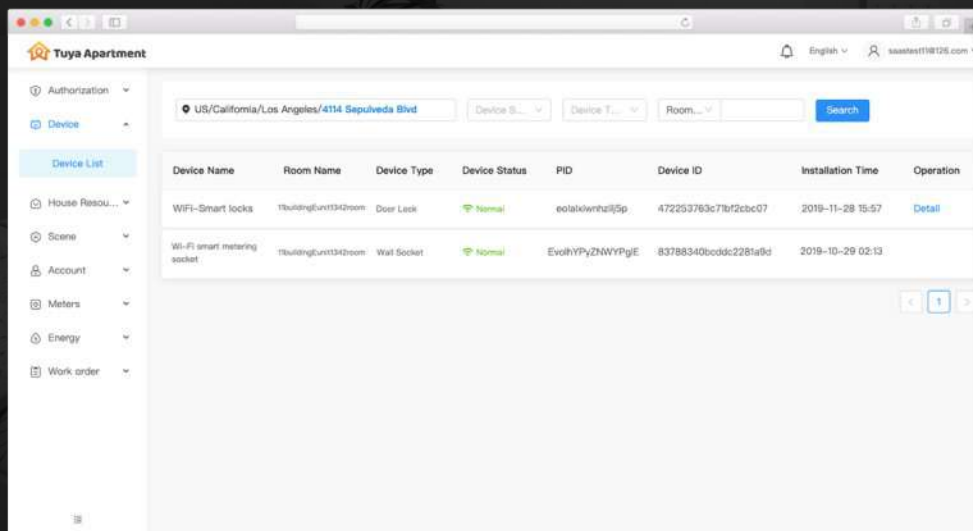
The **builder** can handle the installation task and view the task progress in the engineering delivery app.



Tuya Apartment SaaS - Device Management

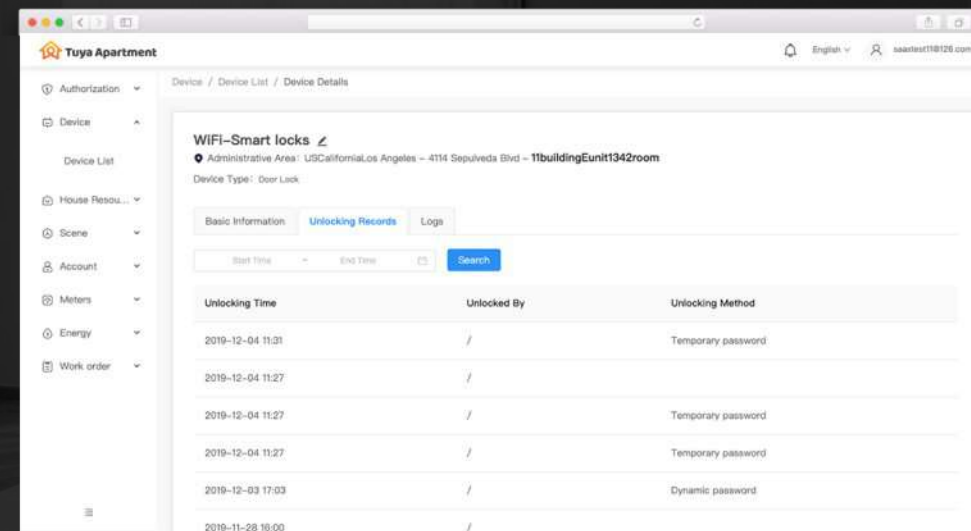
The device list displays all devices in the current community and allows you to view the basic information, device status, and access records.

Check device status



Device Name	Room Name	Device Type	Device Status	PID	Device ID	Installation Time	Operation
WiFi-Smart locks	1buildingUnit134room	Door Lock	Normal	ee0akwvhaI5p	472253763c7bf2c0c07	2019-11-28 15:57	Detail
Wi-Fi smart metering socket	1buildingUnit134room	Wall Socket	Normal	EvoRyPyZNVYPgE	83788340c0ddc2285a9d	2019-10-29 02:13	

Check access records



Unlocking Time	Unlocked By	Unlocking Method
2019-12-04 11:01	/	Temporary password
2019-12-04 11:27	/	Temporary password
2019-12-04 11:27	/	Temporary password
2019-12-03 17:03	/	Dynamic password
2019-11-28 16:00	/	

Tuya Apartment SaaS - Move-in Authorization

The apartment manager can directly deliver the access password to a tenant on the SaaS platform. The authorization period is the same as the tenancy term.

The screenshot displays the Tuya Apartment SaaS interface. On the left, a sidebar menu includes 'Authorization', 'Check in', 'Check in log', 'Construction', 'Construction...', 'Repair', 'Repair log', 'Device', 'House Reso...', 'Scene', 'Account', and 'Meters'. The main content area shows a search bar with the address 'US/California/4114 Sepulveda Blvd' and a 'Search' button. Below the search bar is a table of rooms with columns for 'Type', 'Status', and 'Number of Guests'. Two rooms are listed: '11buildingEunit1999room' and '11buildingEunit1342room'. The '11buildingEunit1342room' is selected. On the right, the 'Authorize Room Check-in' panel is visible, containing fields for 'Guest Information' (Phone Number, Name), 'Unlocking Method' (Temporary password, Tenant APP), 'Authorization Validity Period' (Start Time, End Time), and 'Room Authorization' (Selected: 1). A blue 'Authorize Now' button is located at the bottom of the panel.

Enter information about the tenant

Select the apartment to be rented

Select an access method

Enter the authorization validity period (tenancy term)

Click Authorize to complete registration

Tuya Apartment SaaS

Move-in Authorization: Core Scenarios with Temporary Passwords

Temporary passwords can be provided to potential tenants who have made an appointment to see the apartment, apartment cleaners, and maintenance personnel, with access records kept.



Unlocking Time	Unlocked By	Unlocking Method
2019-12-04 11:31	/	Temporary password
2019-12-04 11:27	/	Temporary password
2019-12-04 11:27	/	Temporary password
2019-12-04 11:27	/	Temporary password
2019-12-03 17:03	/	Dynamic password
2019-11-28 16:00	/	

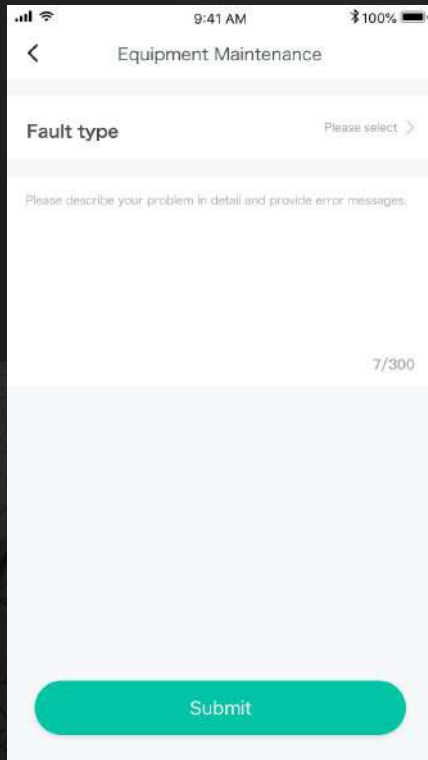
Deliver a temporary password

Receive an SMS message

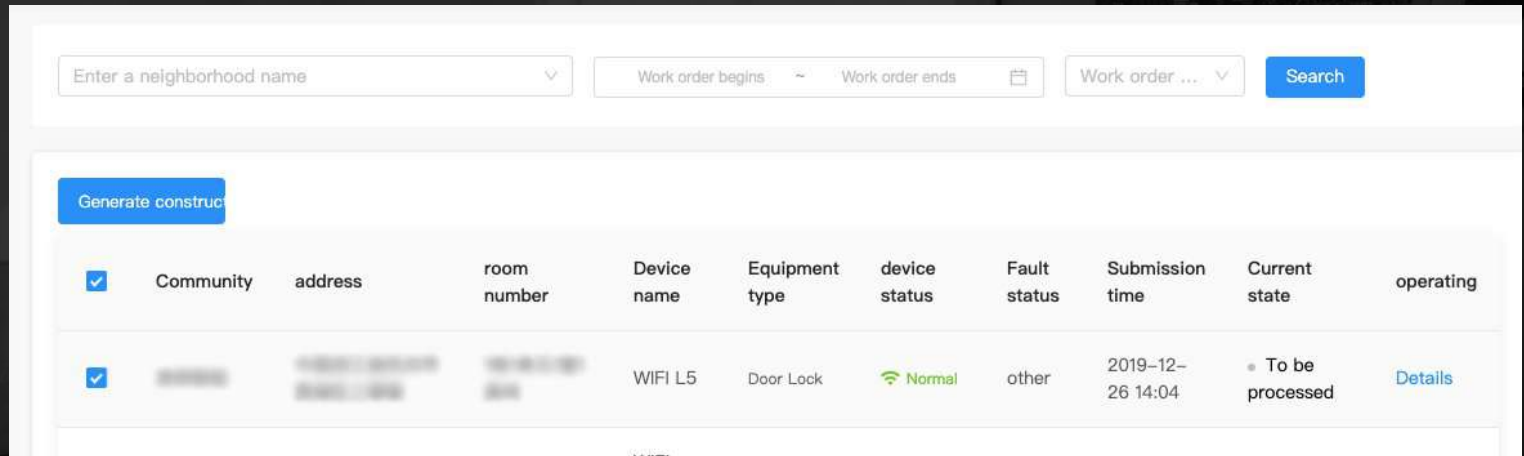
Check access records

Tuya Apartment SaaS - Device Maintenance

After a tenant submits a device maintenance request in the app, the SaaS platform will generate a maintenance order and send it to the maintenance personnel. Apartment operators can also issue maintenance tasks on the SaaS platform.



Tenant app page

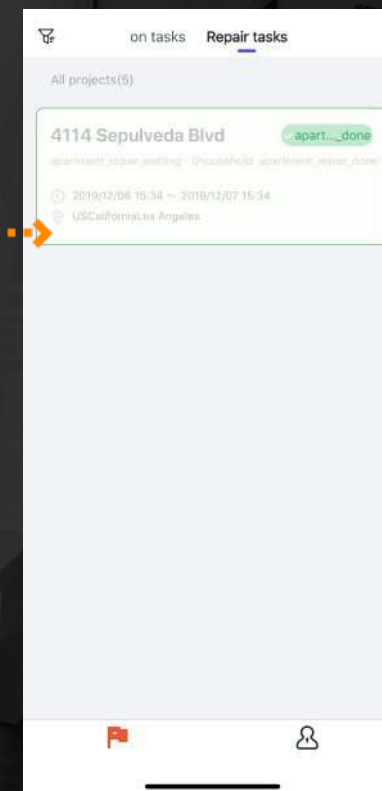
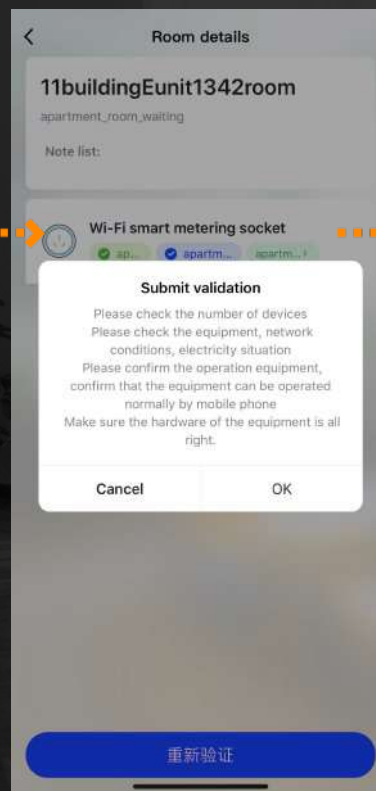
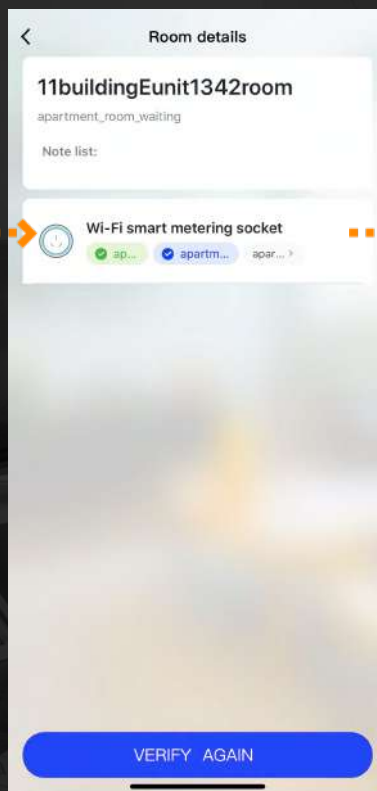
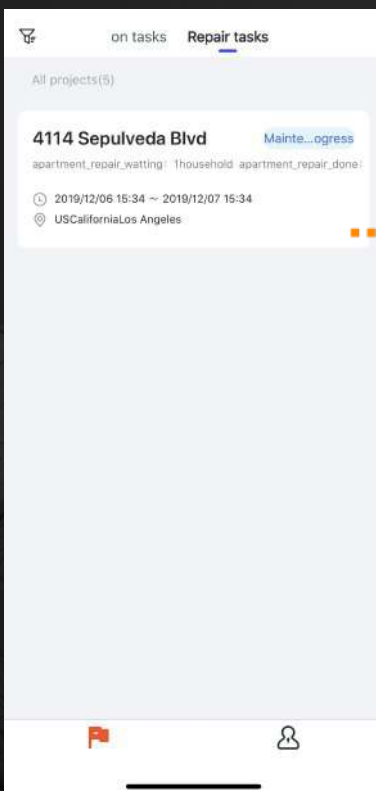


Apartment SaaS page



Tuya Apartment SaaS - Device Maintenance

Maintenance personnel can handle the maintenance task in the engineering delivery app. After maintenance is complete, the task status is synchronized to the SaaS platform and the tenant app.



Tuya Apartment SaaS - System Management

Account management grants different staff roles corresponding management permissions. Energy management presents energy data by area and time.

Sub-account Information

* Add Sub-account: Email

Phone Number:

* Name:

* Password:

* Confirm Password:

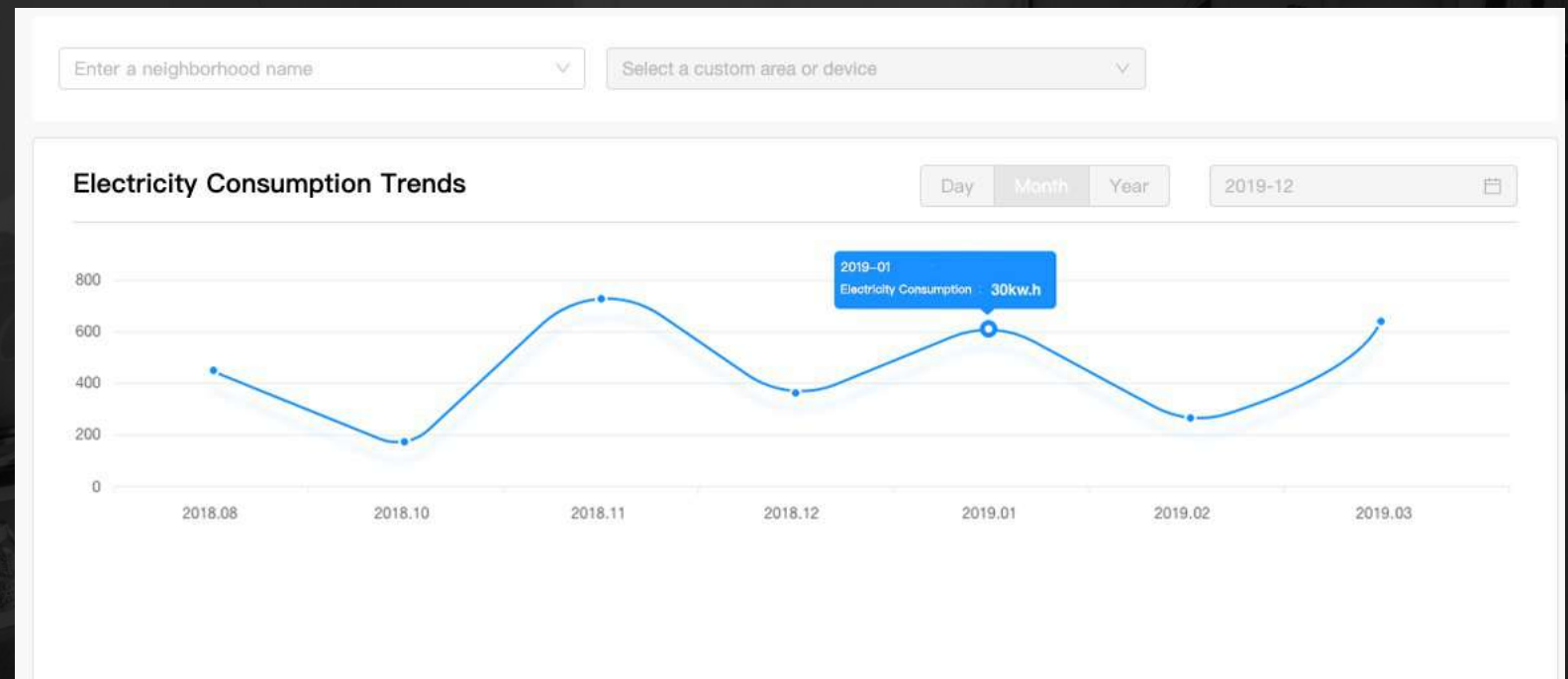
Area Permission:

Neighborhood Permission:

* Role: Administrator

* Account management:

- Account Management
- Check-in Authorization
- Device Management
- House Resource Management
- Construction Management
- Manage Meters
- Energy Management
- Scene management
- Work order management
- Tenant app configuration management

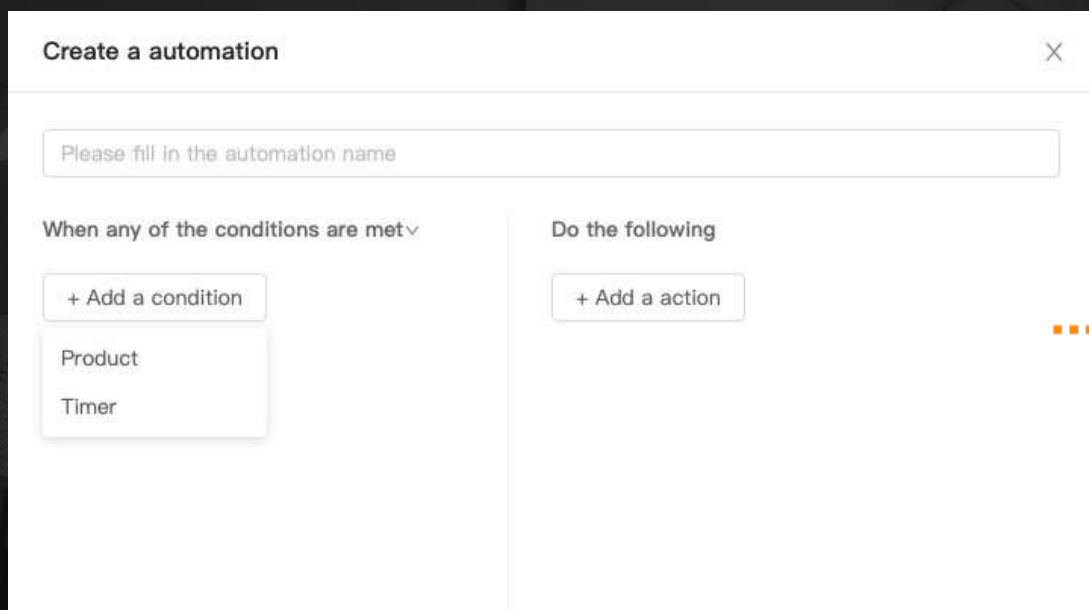


Create different accounts by area, permission, and role

Visualized energy data

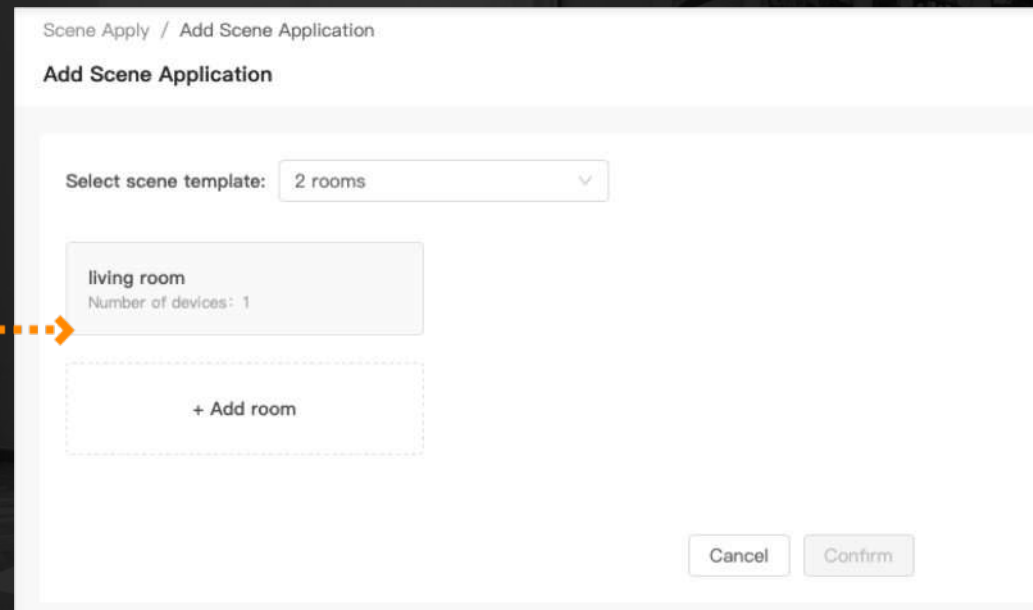
Tuya Apartment SaaS - Scene Settings

An apartment manager can preset the usage scene for an apartment on the SaaS page, so that a tenant can enjoy an intelligent life after moving in. All settings are automatically restored at the end of the tenancy term.



The 'Create a automation' dialog box features a title bar with a close button. Below the title is a text input field with the placeholder 'Please fill in the automation name'. The main content is divided into two columns. The left column is titled 'When any of the conditions are met' and contains a '+ Add a condition' button and a list of options: 'Product' and 'Timer'. The right column is titled 'Do the following' and contains a '+ Add a action' button.

Create/Edit automation settings

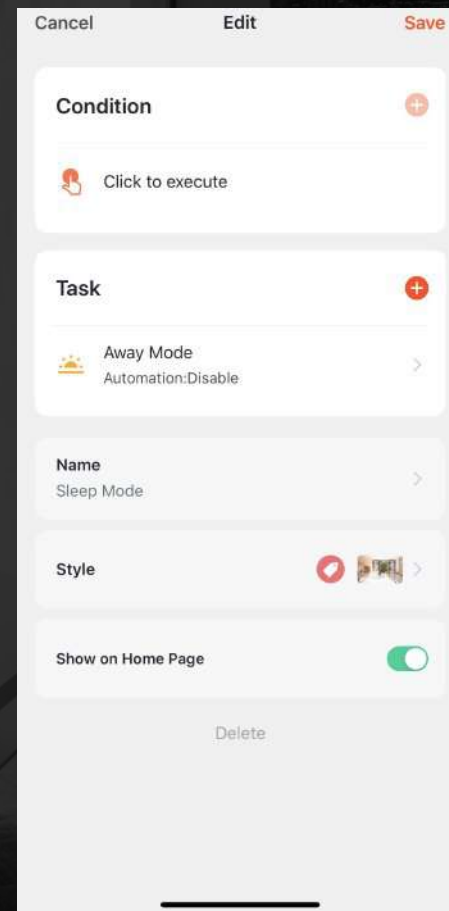
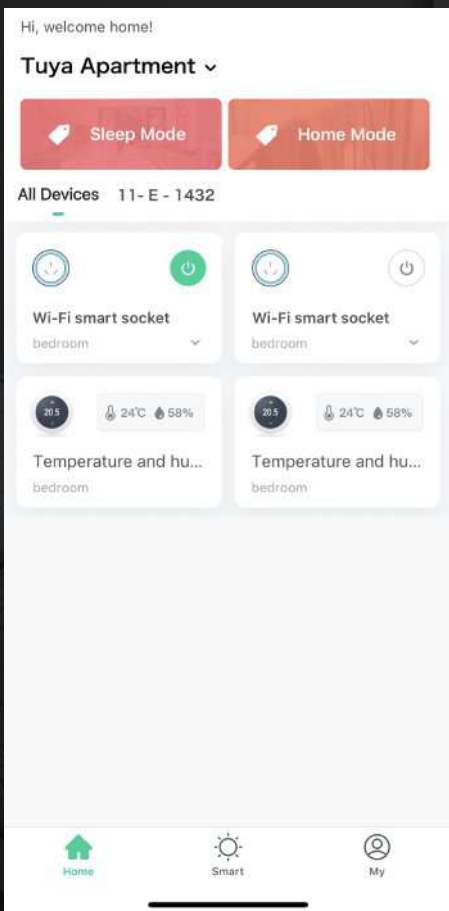


The 'Add Scene Application' dialog box has a breadcrumb 'Scene Apply / Add Scene Application' and a title 'Add Scene Application'. It features a 'Select scene template:' dropdown menu currently set to '2 rooms'. Below this is a list of room options, with 'living room' selected and showing 'Number of devices: 1'. A dashed box below the list contains a '+ Add room' button. At the bottom right, there are 'Cancel' and 'Confirm' buttons. A dashed orange arrow points from the '+ Add a action' button in the first dialog to the 'living room' option in this dialog.

Select the room

Tuya Apartment SaaS - Scene Settings

A tenant can check default scene settings in the tenant app and adjust the settings based on their personal habits. The settings are automatically cleared when the tenancy expires.



Tuya Apartment SaaS - API Capability

Tuya provides a series of APIs for community, apartments, and device management, to seamlessly connect to various management systems.

ParameterName	Type	ParameterDescription	Note
room_id	String	room id	
room_address	String	room name	
community_id	String	neighborhood id	
block	String	neighborhood name	
building	String	building	
unit	String	unit	
door	String	suite	
room	String	room	
modified_time	Long	modified time	
create_time	Long	create time	
room_type	Integer	room type	

```
{
  "result": {
    "block": " ",
    "building": "3",
    "community_id": "106d3a8cd480b000",
    "create_time": 1571043143824,
    "door": "3",
    "entrance_relation": "null",
    "modified_time": 1571052803055,
    "room": "303",
    "room_address": " ",
    "room_id": "106d3abb36c09000",
    "room_type": 0,
    "total_relation_sub_rooms_num": 0,
    "unit": "3"
  },
  "success": true,
}
```

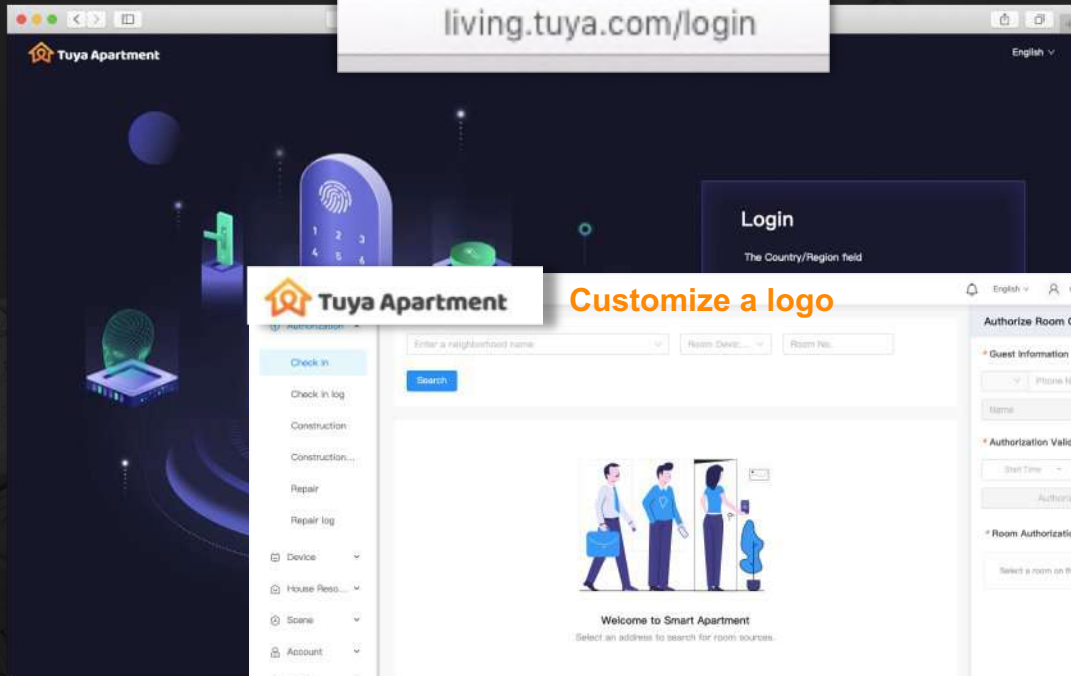


Tuya Apartment SaaS - OEM Capability

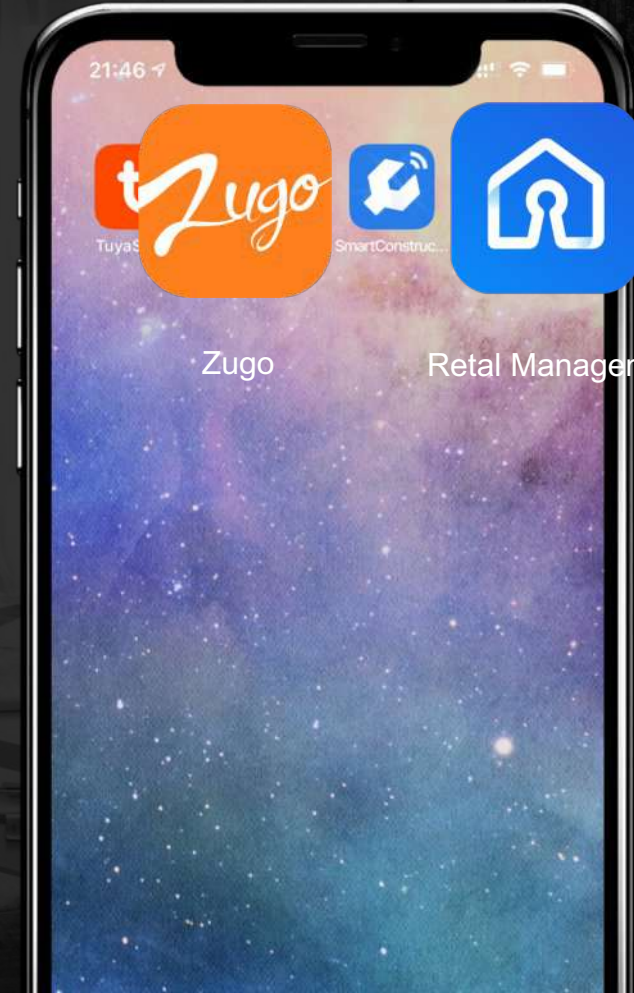
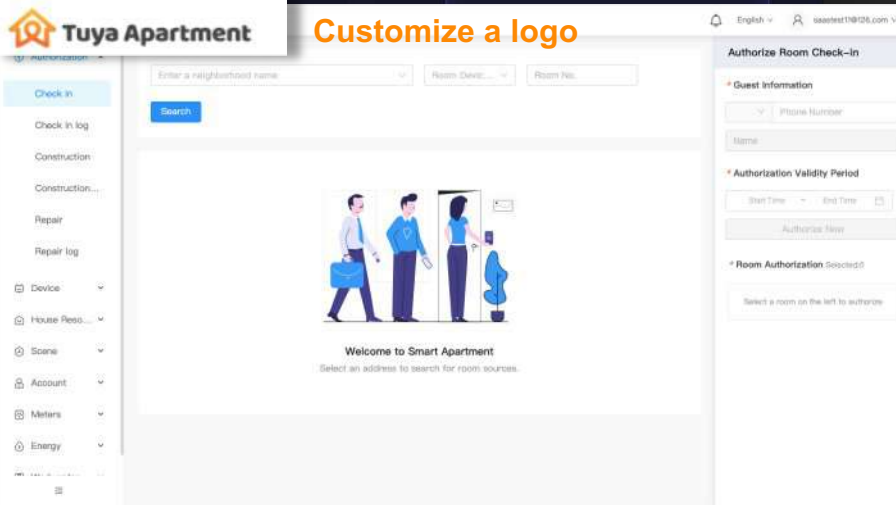
Tuya provides personalized logos/domain names and brand-exclusive apps to highlight the brand value.

Customize a domain name

living.tuya.com/login



Customize a logo



Customize a logo

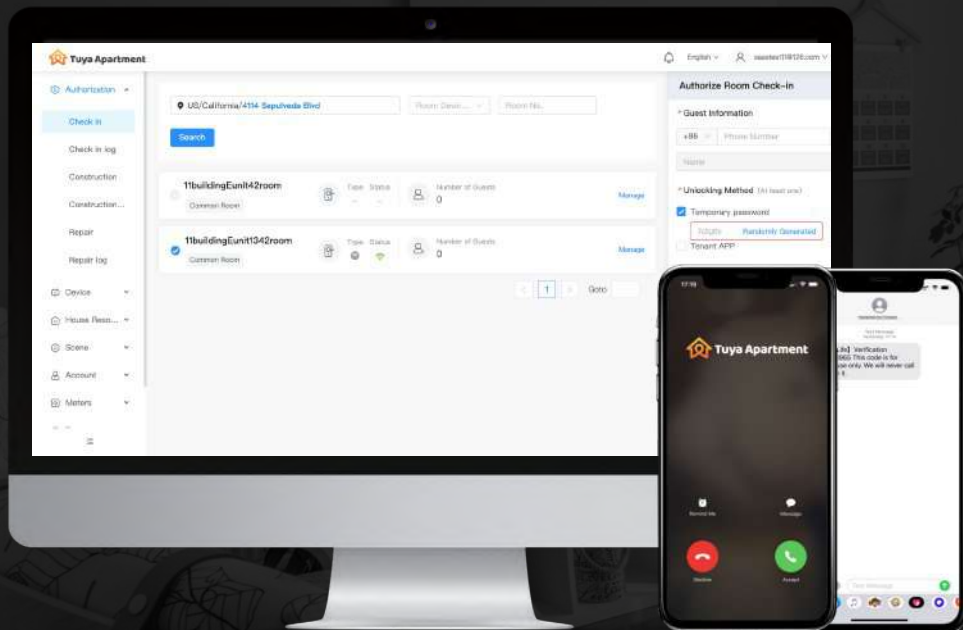
Zugo

Rental Management

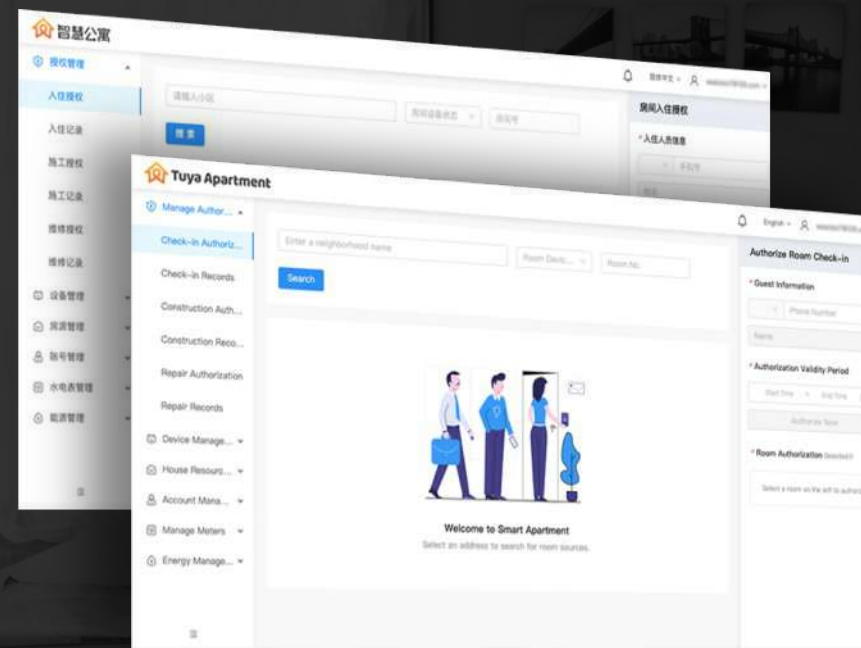
Customize a name

Tuya Apartment SaaS - Future Plans

The apartment SaaS system is iterated and optimized every month to provide a better management experience for apartment managers.



To add alarms for device exceptions in the apartment by phone calls or SMS



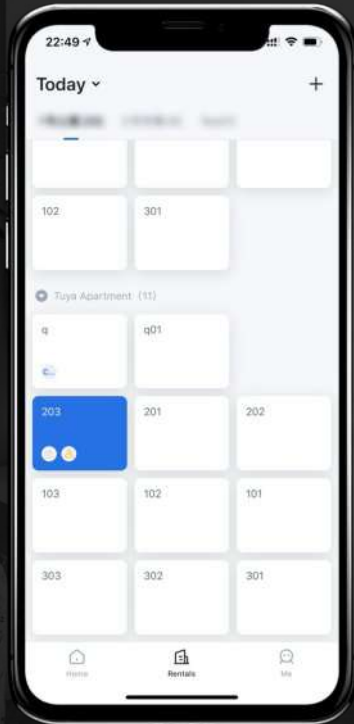
To launch a multi-language edition in a minimum of one week

Introduction to apps

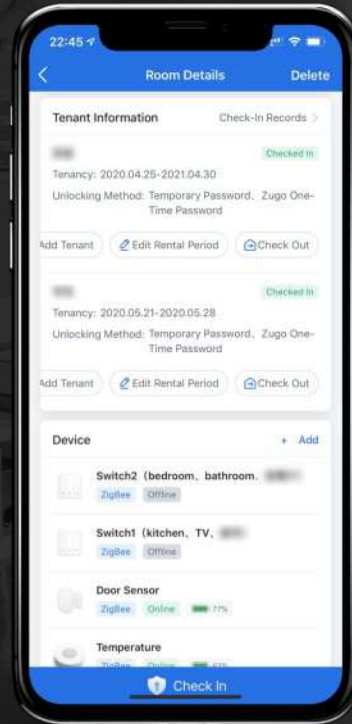
Landlord app: Manage rentals, tenant authorization, and smart devices such as smart apartment locks conveniently.



Login page



Room list



Modify lease

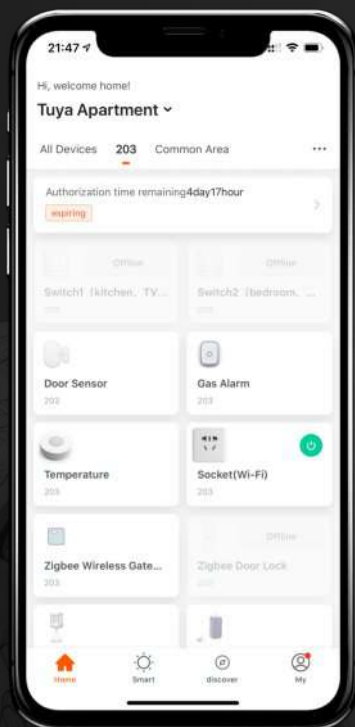


Rental Management

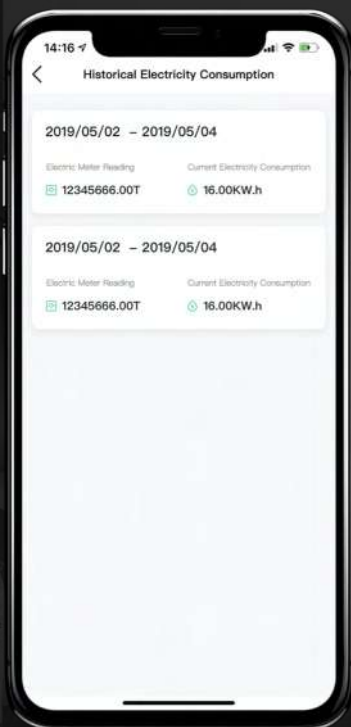
- Support new listings online.
- Support online check-in for tenants.
- Support for tenants to modify the lease period and check out.
- Support online modification of door opening method.
- Support to view the device status in the listings.

Introduction to apps

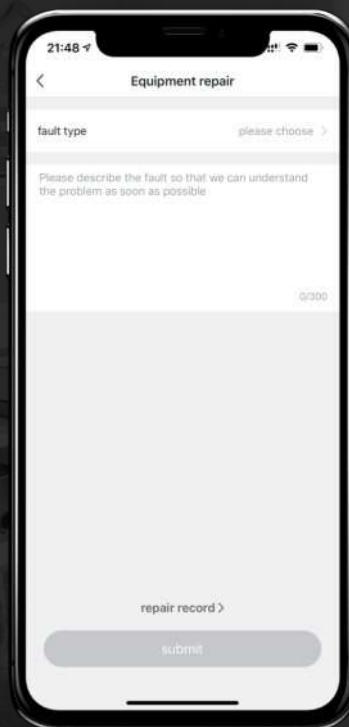
Tenant app: Makes tenants' lives more convenient and allows them to easily submit maintenance requests.



Overview of
apartment
devices



Query for
electricity bills



Device
maintenance
request



Zugo

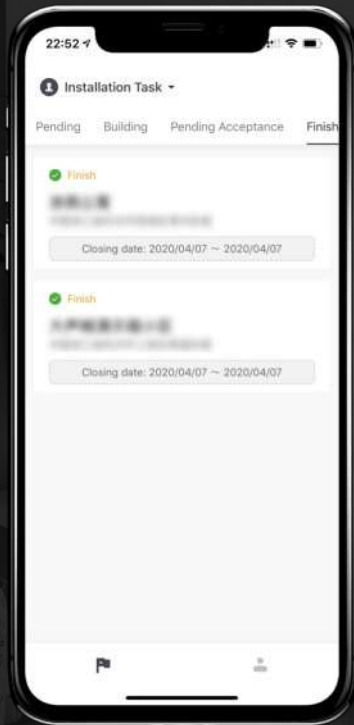
- Support query for the status of all devices in an apartment.
- Support scene linkage settings.
- Support automation settings.
- Support push notifications.
- Support online submission of device maintenance requests.

Introduction to apps

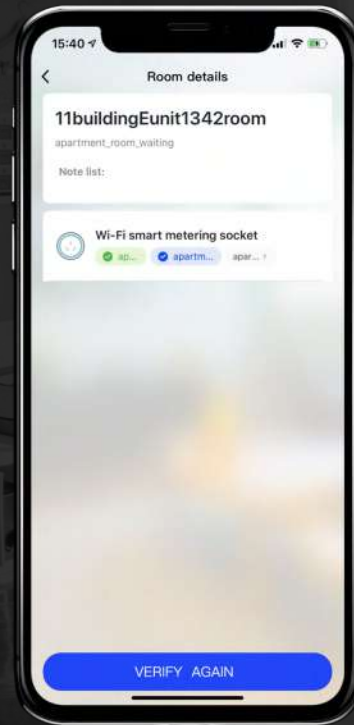
Construction app: Improves operation efficiency for builders.



Project query



Installation operations



Maintenance tasks



Smart Construction

- Allow construction workers to view project details.
- Support installation operations on a mobile phone.
- Allow construction workers to view installation tasks.
- Allow construction workers to view maintenance tasks.
- Allow construction workers to view all tasks.

Hardware Products



Access control products

- Support remote and on-site entry of visitor and tenant information.
- Provide access control based on ID cards, fingerprints, passwords, facial recognition, or access control cards.



Security sensors

- Identify device status.
- Deliver real-time notifications for exceptions.
- Enable scene linkage.



Energy consumption management products

- Enable remote meter reading and intelligent power supply/cutoff.
- Support wired and wireless solutions.



Whole-house smart products

- Support remote control.
- Provide various linkage modes.



IoT gateways

- Support products such as Wi-Fi, Zigbee, and Bluetooth.

Integrated Apartment Ecosystem



AI Capital Alliance

The biggest consortium of investors targeting intelligent manufacturing



Industry's first academy for training of entrepreneurs in intelligent manufacturing



Tuya successfully held four global intelligent business summits, making it most influential in the industry.



The Asia-Pacific AI Business Alliance and an AI+IoT developers ecological alliance initiated by Tuya

Certification of Tuya

In line with global information security standards, Tuya products and services have received the ISO27001 certification and passed the internal audit of GDPR.



Tuya Apartment

Business Cooperation

📍 Offices:

China Headquarter

Floor 7-12, Building A, Huace Center, Xihu District, Hangzhou, China

Tuya U.S. Headquarter

75 E Santa Clara St, 6th Floor, San Jose, CA 95113

Tuya India Headquarter

17-19, 17th floor, Emaar Digital Greens, golf course extension road, sector 61, Gurgaon, Haryana

Tuya Germany Headquarter

Peter-Müller-Straße 16, 40468 Düsseldorf

Tuya Japan Headquarter

2-7-7, Shoto, Shibuya, Tokyo, 1500046, Japan



Scan QR code to apply
for account of Tuya
Apartment SaaS