Data Module Functions and Use Guide

Guidelines for IoT Platform > Data Center

Version: 20200803

Online Version

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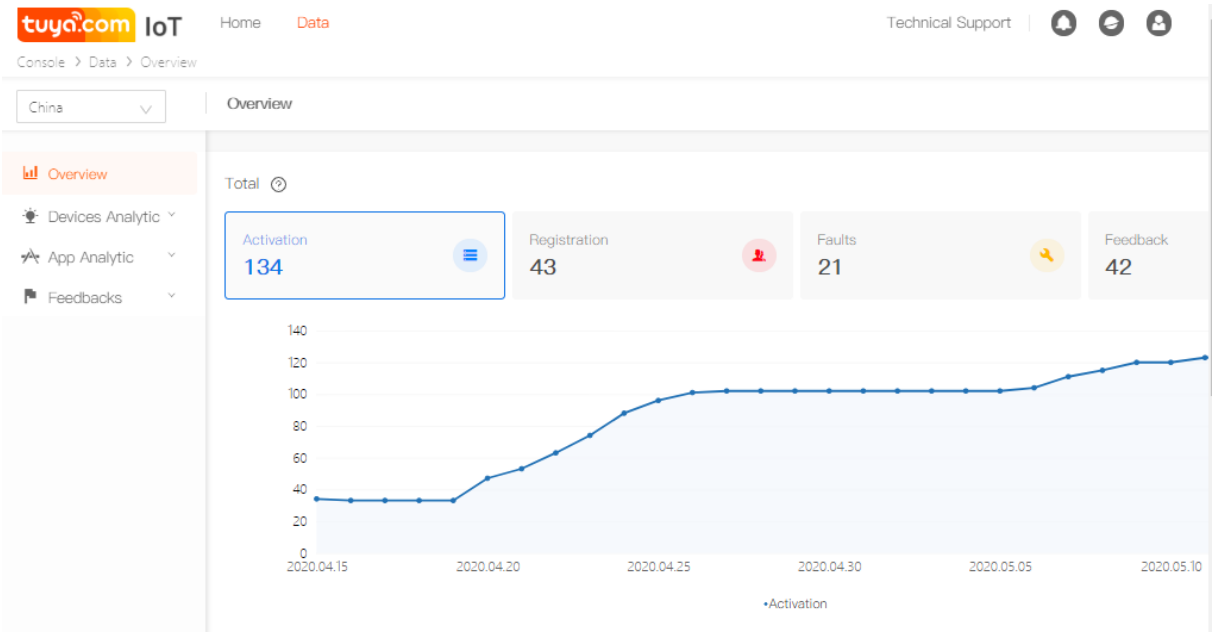
1 Overview

Overview displays overview information, including activated devices, App registration users, faults, product proportion, category linkage analytics, and users' feedback. The information helps you quickly master comprehensive indexes, for example, your smart products, OEM App, and utilization by consumers.

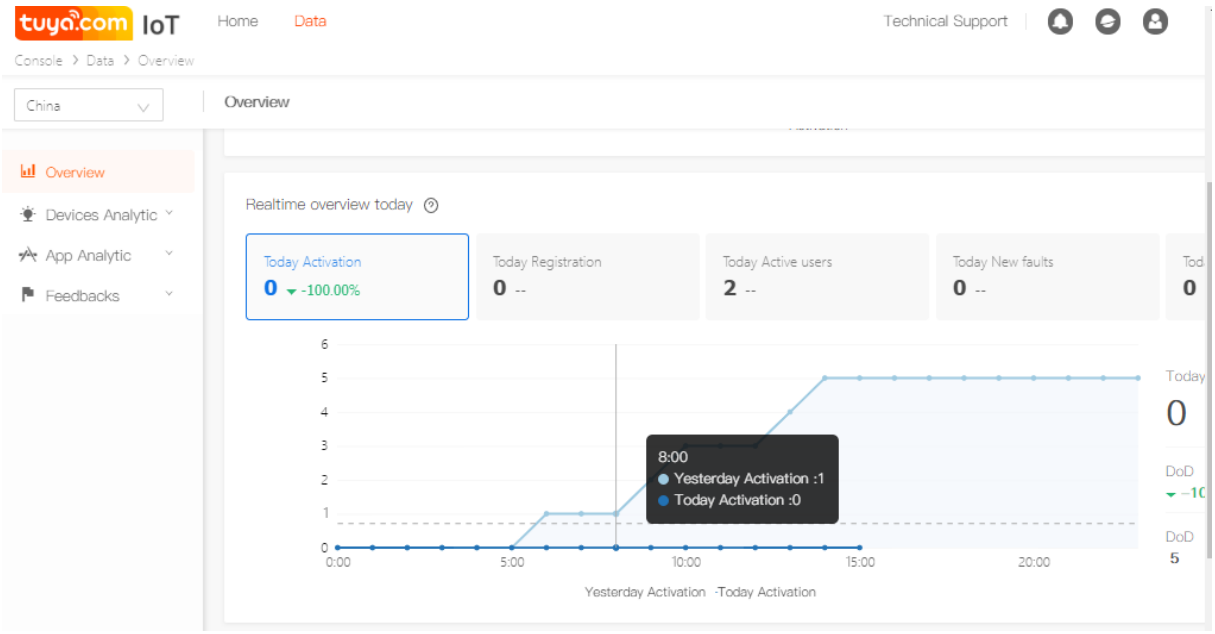
1.1 Total



- **Activation**: indicates the total number of activated devices with product IDs (PIDs) under the current Tuya account. A device is activated after it successfully accesses the network for the first time and is bound to the App.
- **Registration**: indicates the total number of users who have registered with the App that is associated with the current Tuya account.
- **Faults**: indicates the number of faults reported by devices through fault DPs (Data Points) that have occurred on devices under the current Tuya account.
- **Feedback**: indicates the total number of feedbacks submitted through the App (under the current Tuya account) .

1.2 Realtime overview today

The Realtime overview today shows daily real-time data of the current IoT account. You can click different dashboards to see specific data.

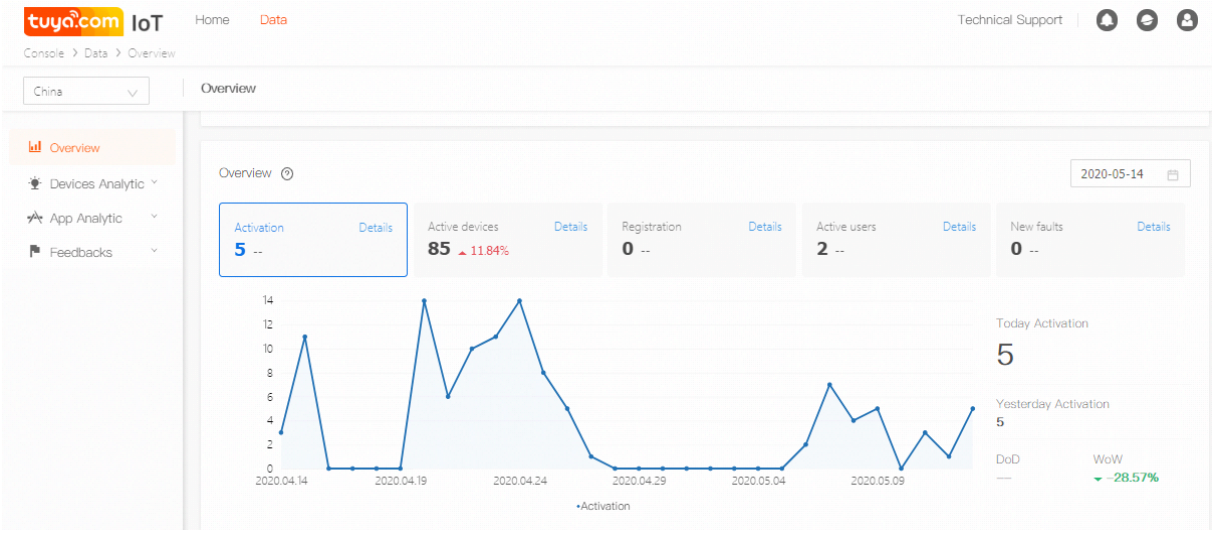


- **Today Activation**: indicates the number of devices successfully access the network for the first time and are bound to the App on the current day.
- **Today Registration**: indicates the number of registration bound to the App associated with the current Tuya account on the current day.
- **Today Active users**: indicates the number of online users on the current day.
- **Today New faults**: indicates the number of faults reported by devices through fault DPs (Data Points) that have occurred on devices under the current Tuya account and were reported on the current day.
- **Today New user feedback**: indicates the number of feedbacks submitted by App users under the current Tuya account on the current day.
- **Today Effective interactions**: indicates the number of devices reported DPs(Data points) under the current Tuya account on the current day. One device can report multiple times.
- **DoD**: The value is calculated as follows:

  The data reported on the current day/ The data reported on the previous day x 100%

- **Yesterday**: indicates the data reported on the previous day.

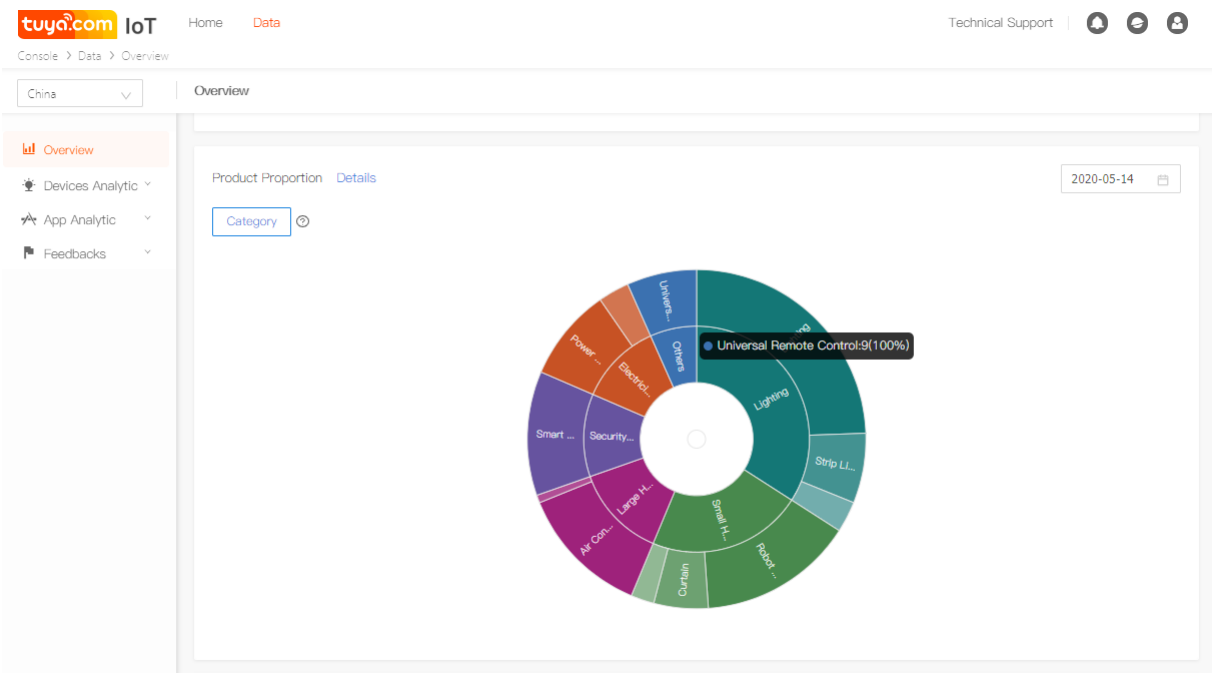
1.3 Overview



- **Activation:** indicates the total number of devices successfully access the network for the first time and are bound to the App on the current day.
- **Active devices**: indicates the trends of daily online devices over a specified time.
- **Registration**: indicates the trends of daily registered users over a specified time.
- **Active users**: shows the trends of daily online users (users who have login the App) over a specified time.
- **New faults**: indicates the number of faults reported by devices through fault DPs (Data Points) that devices reported through the App associated with the current Tuya account on the current day. One device can report multiple times.
- **Today Activation**: indicates the number of activated devices with product IDs (PIDs) under the current Tuya account on the current day. A device is activated after it successfully accesses the network for the first time and is bound to the App.
- **Yesterday Activation**: indicates the number of activated devices with product IDs (PIDs) under the current Tuya account on the previous day.

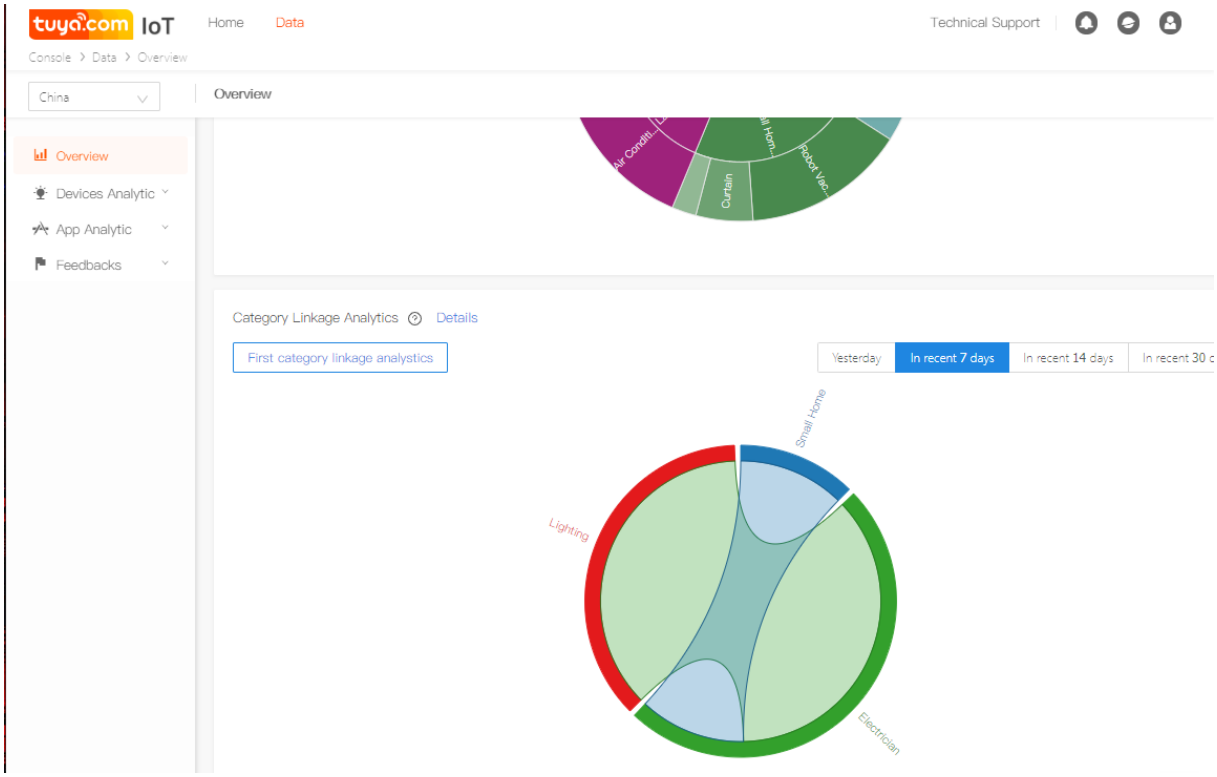
- **DoD**: The value is calculated as follows: The data reported on the current day/ The data reported on the previous day x 100%
- **WoW**: The value is calculated as follows: The data reported on the current day/ The data reported on the last 7 days x 100% – 100%

1.3.1 Charts



Product Proportion

Category chart: Visualize data structures of first and secondary product category by using a sunburst chart. It shows the category distribution of devices activated.



Category Linkage Analytics

First category linkage analytics chart: Linkage means that multiple devices in one scene are triggered at the same time. Here, we are counting the linkage of the first category, ie. the linkage times of lighting and electrical products. You can analyze the customer behavior by looking into the linkage data with a chord diagram.

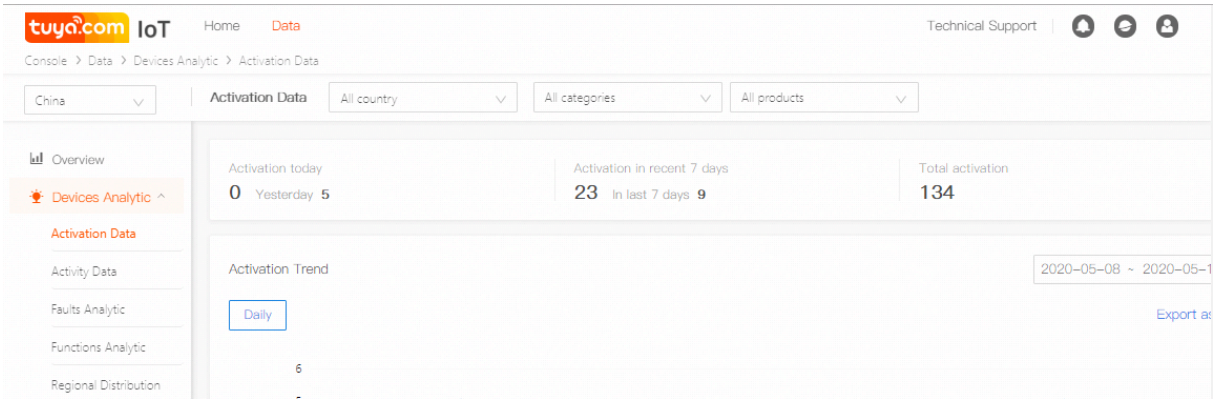
It shows the first category linkage with the App associated with the current Tuya account over a specified time such as “yesterday”, “recent 7 days”, “recent 14 days”, and “recent 30 days”.

2 Devices Analytic

Devices Analytic displays device statistics, including information about device activation, frequency of device use, function use, and device locations. The device statistics help you understand how many smart products received by consumers have been activated, which functions are frequently used, and where devices are used.

2.1 Activation Data

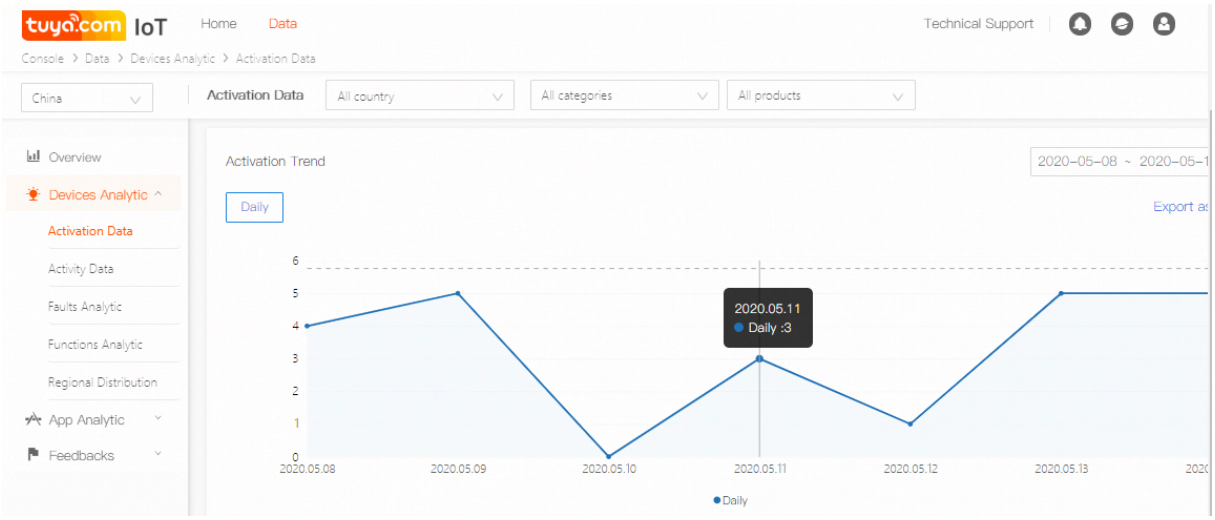
Activation indicates successful network configuration of a device that the consumer who purchased the device is using for the first time. **Activation Data** displays information about the sales and initial use of devices.



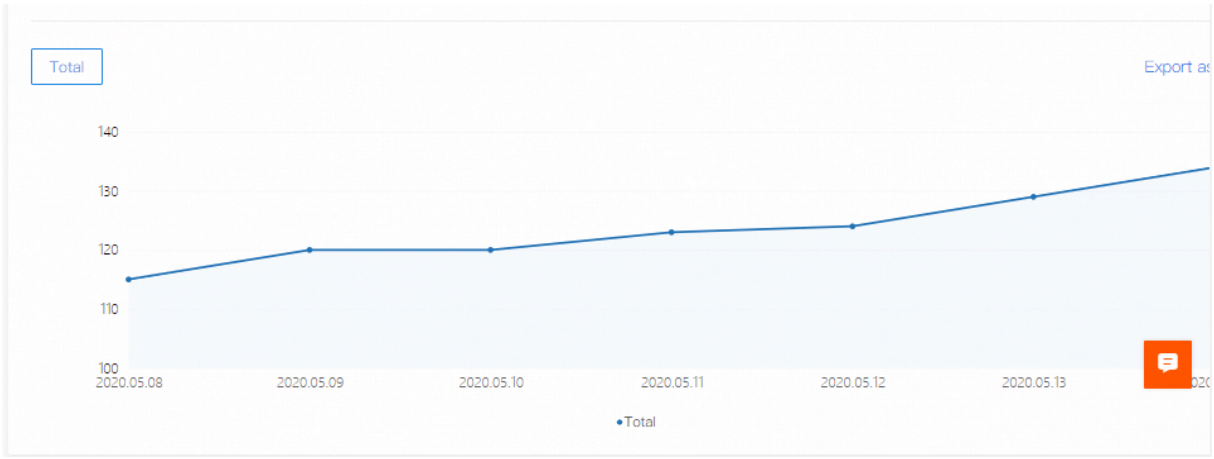
2.1.1 Parameter Description

- **Activation today**: indicates the number of devices that accessed the network for the first time and were bound to the App on the current day.
- **Activation in recent 7 days**: indicates the total number of devices that were activated in the past seven days (excluding the current day).
- **Total Activation**: indicates the total number of activated devices with PIDs under the current Tuya account.

2.1.2 Activation Trend



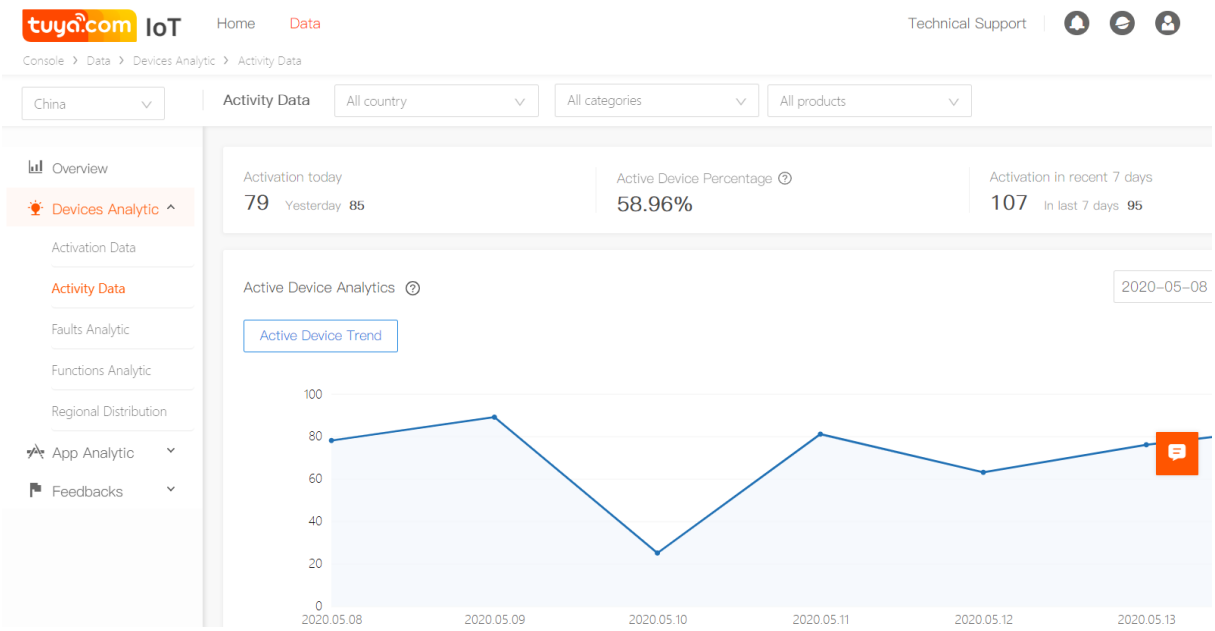
- **Daily** activation trend: indicates the daily number of devices that accessed the network for the first time and were bound to the App over a specified time.
  .



- **Total** activation trend: "Activation" indicates the number of devices that accessed the network for the first time and were bound to the App. The chart of total activation devices indicates that the total activated devices with PIDs under the current Tuya account.

2.2 Activity Data

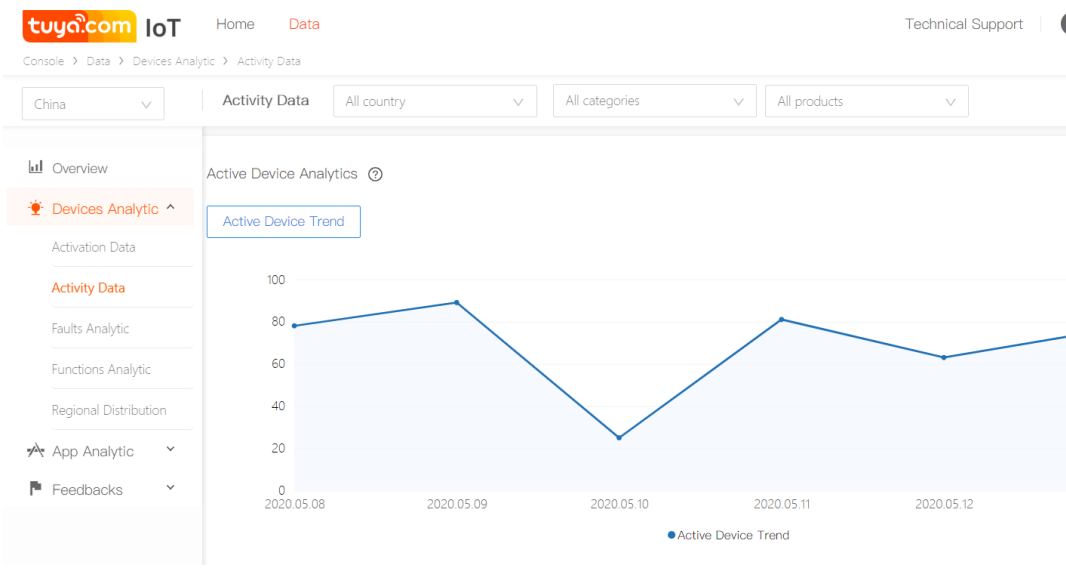
An active device interacts with the cloud. **Activity Data** displays information about consumers' use of devices.



2.2.1 Parameter Description

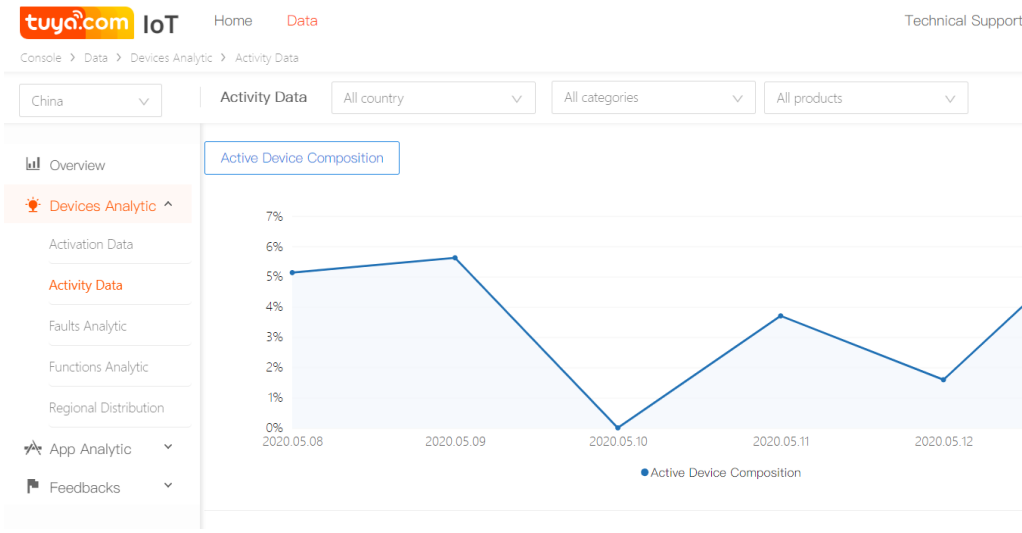
- **Active today**: indicates the number of active devices on the current day.
- **Active Device Percentage**: The value is calculated as follows:
  Active Device Percentage = **Devices active today** / Total number of activated devices x 100%
- **Active in recent 7 days**: indicates the number of active devices for the past seven days (excluding the current day).

2.2.2 Charts



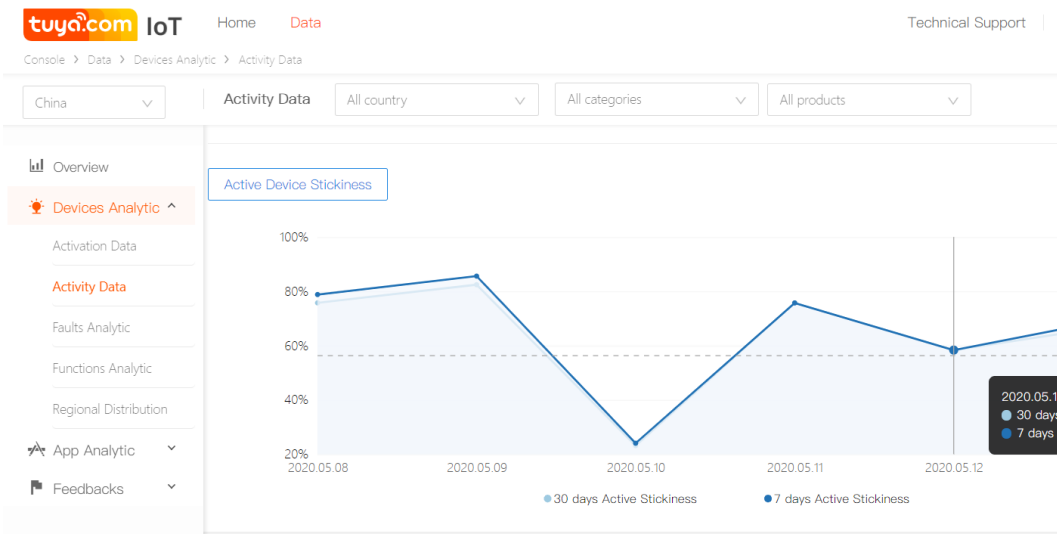
Active Device Analytics

Active Device Trend chart: shows the trends for daily active devices (who request cloud APIs) over a specified time (excluding the same devices).



Active Device Composition

- **Active Device Composition**: The value is calculated as follows:
  Active Device Composition = **Newly active devices today**/Number of activated devices today x 100%



Active Device Stickiness

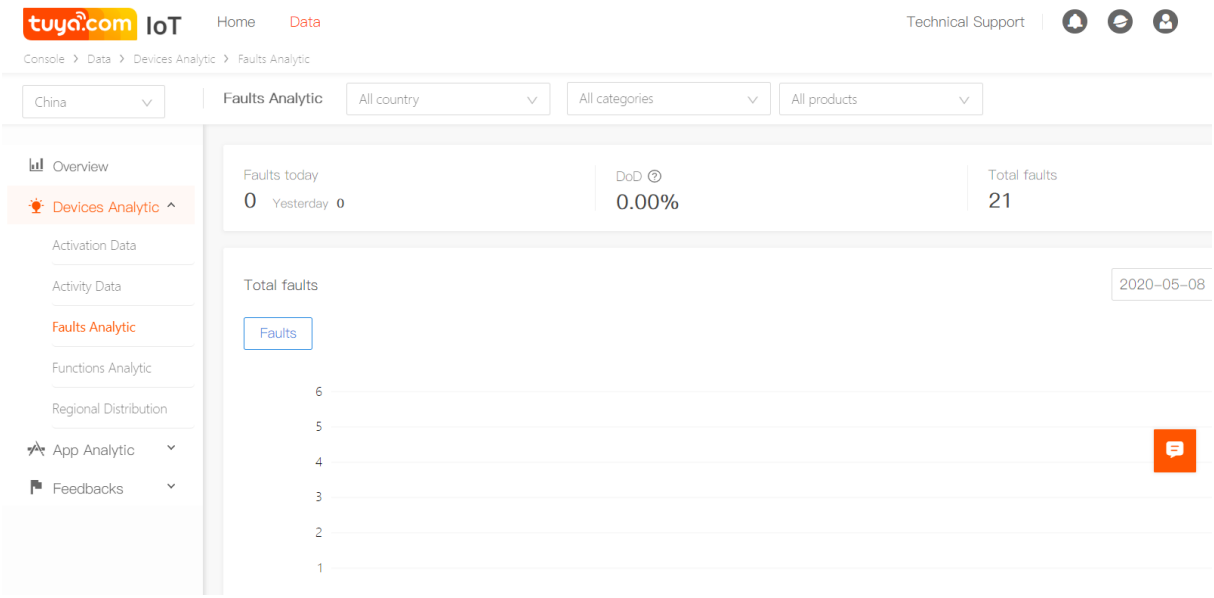
- **Active Device Stickiness**: The value is calculated as follows:
  7 days Active Stickiness = Active devices today / Number of activated devices over past 7 days x 100%

  30 days Active stickiness = Active devices today / Number of activated devices over past 30 days x 100%

2.3 Faults Analytic

Faults Analytic shows statistics including the number of faulty devices and fault distribution. These statistics help you understand which faults are commonly found on the products for sale and which fault reporting types need optimizing so that you can quickly locate product problems and effectively optimize products.

> For example, if the **Faults** chart shows that a large number of faulty smart electric kettles have been reported, you can check the fault distribution chart to locate causes of the faults; for example, you may find that the faults are caused by faulty sensor or high temperatures.

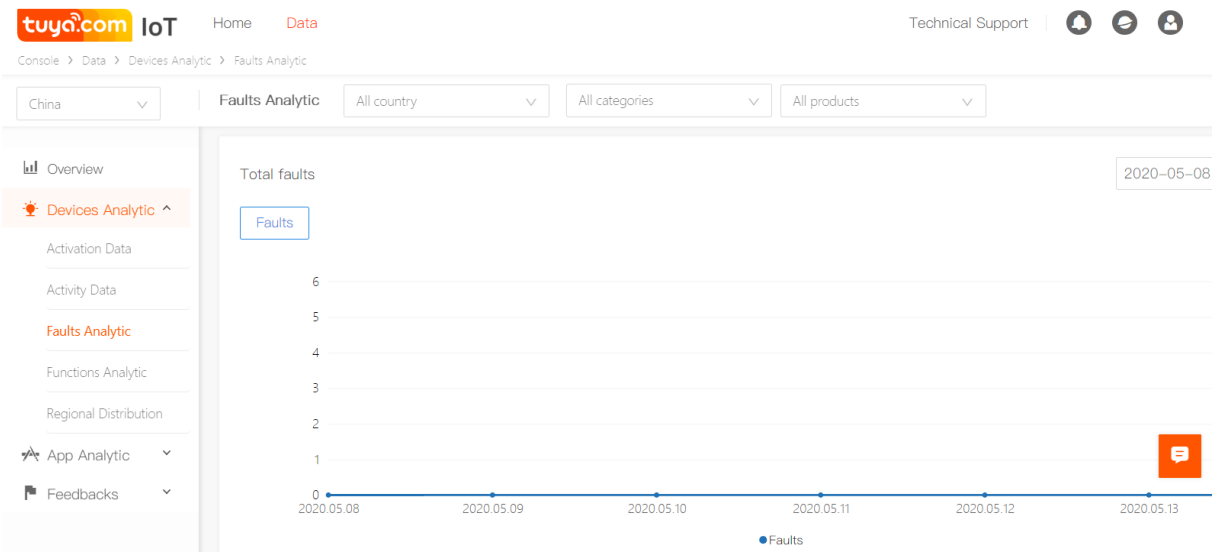


2.3.1 Parameter Description

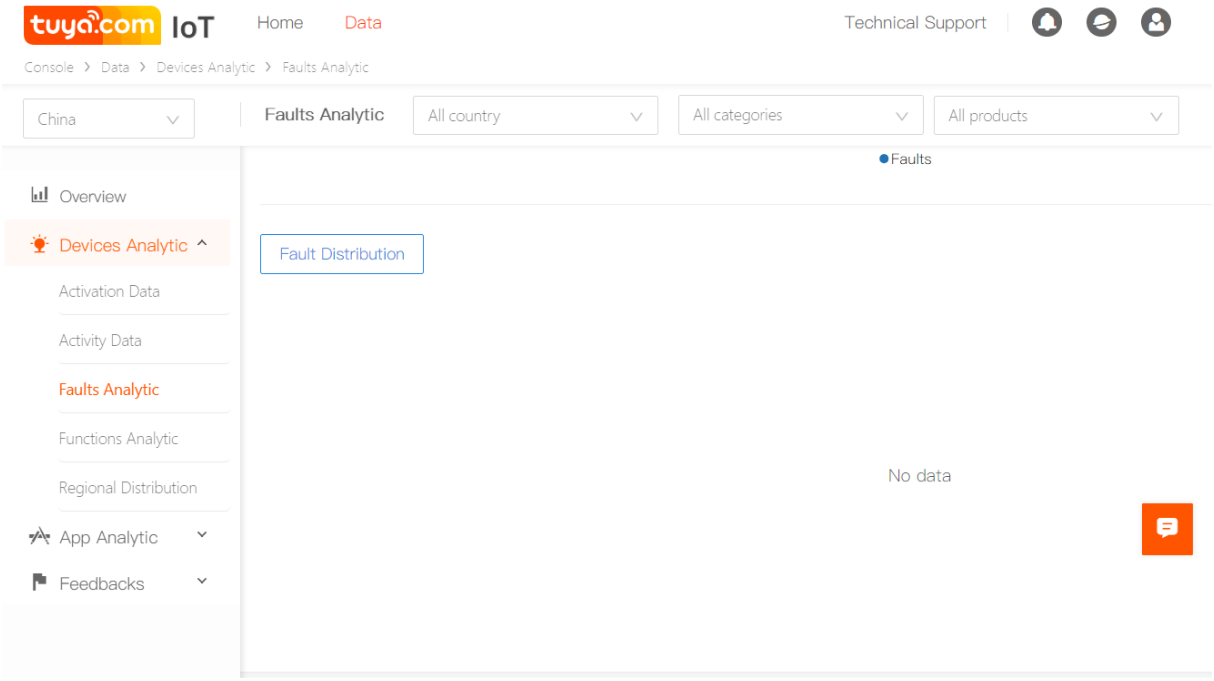
- **Faults today**: indicates the number of reported faults reported by devices through fault DPs (Data Points) that have occurred on devices under the current Tuya account on the current day.
- **DoD**: The value is calculated as follows:

  The number of faults reported today / The number of faults reported yesterday x 100%.
- **Total faults**: indicates the total number of faults reported by devices through fault DPs (Data Points) under the current Tuya account during the specific period.

2.3.2 Charts



- **Faults**: indicates the total number of reported faults reported by devices through fault DPs (Data Points) under the current Tuya account. And it shows the trends of faults every day.



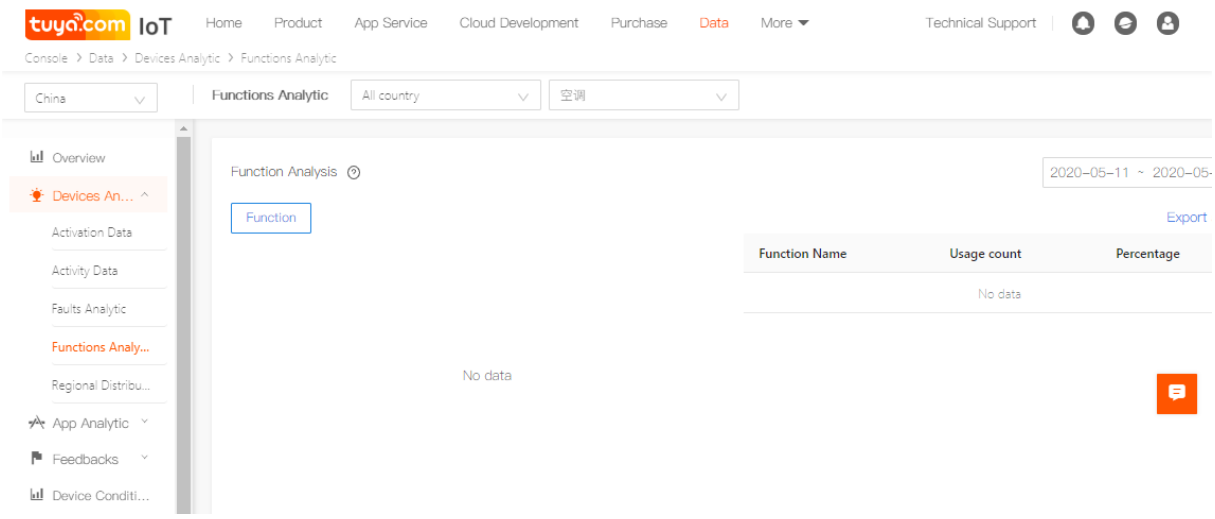
- **Faults Distribution**: indicates the number of faults reported by devices through fault DPs (Data Points) under the current Tuya account. One device can report multiple times.

2.4 Functions Analytic

Functions Analytic displays the utilization rate of product functions. The information helps you understand the functions that are frequently used or unused, so that you can efficiently optimize your products.

> For example, you may need to optimize the airflow direction adjustment function of the smart heater if the function analytics show that the utilization rate of this function is only 5%.

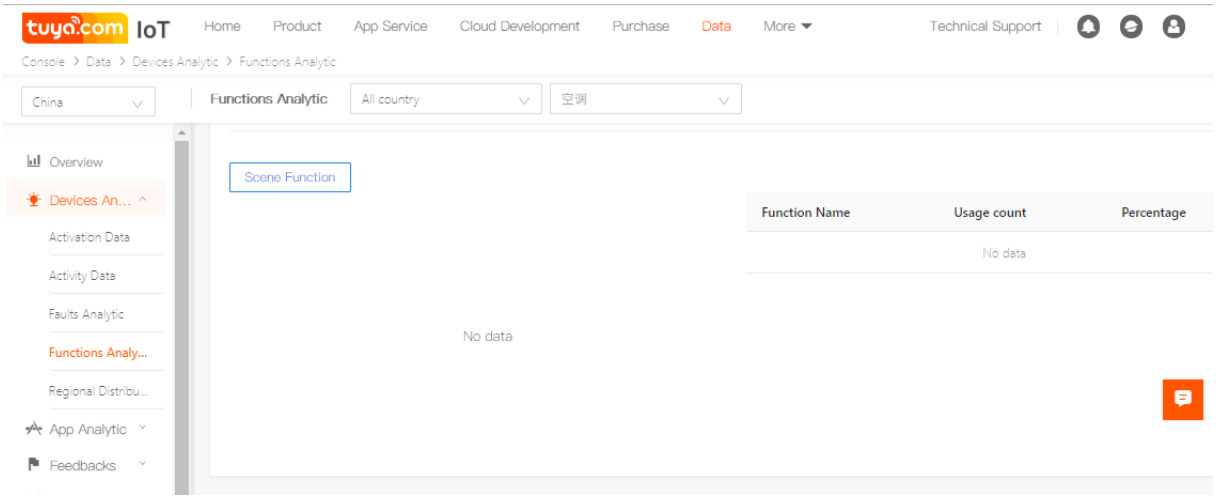
2.4.1 Charts



- **Function**: indicates the number of times that the product function is used (DP, abbreviation for Data Point) under the current Tuya account over the specific time.
- **Percentage** (under the function): indicates the use frequency of different product functions.

  The value is calculated as follows:

  The number of specific function usage counts / The number of all functions usage counts x 100% .



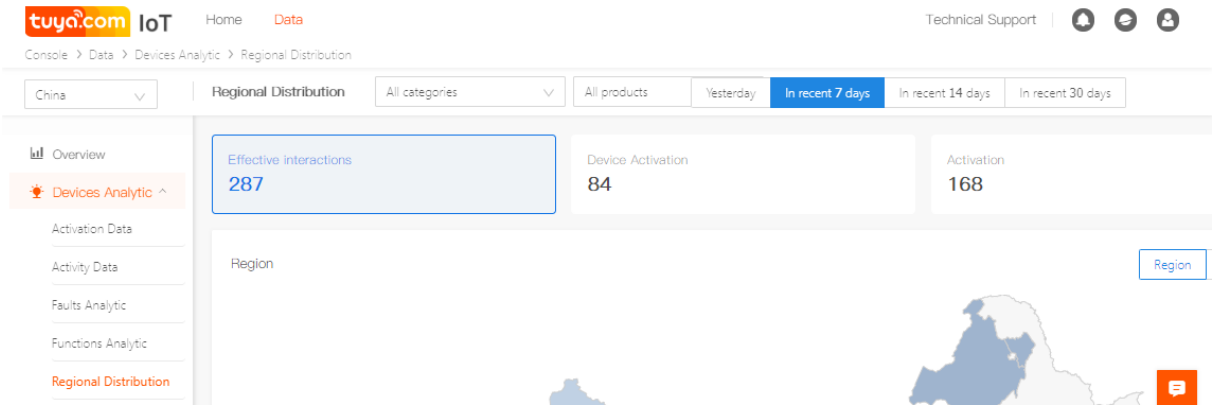
- **Scene Function**: indicates the number of times that the scene is used (such as “Tap-to-Run”, “Automation”) under the current Tuya account during the specific period.
- **Percentage** (under the scene function): indicates the use frequency of different scene functions.

  The value is calculated as follows:

  The number of specific function usage counts / The number of all functions usage counts under all scene functions x 100% .

2.5 Regional Distribution

Regional Distribution displays areas where devices are activated or used, helping you understand the product sales distribution and supporting marketing.

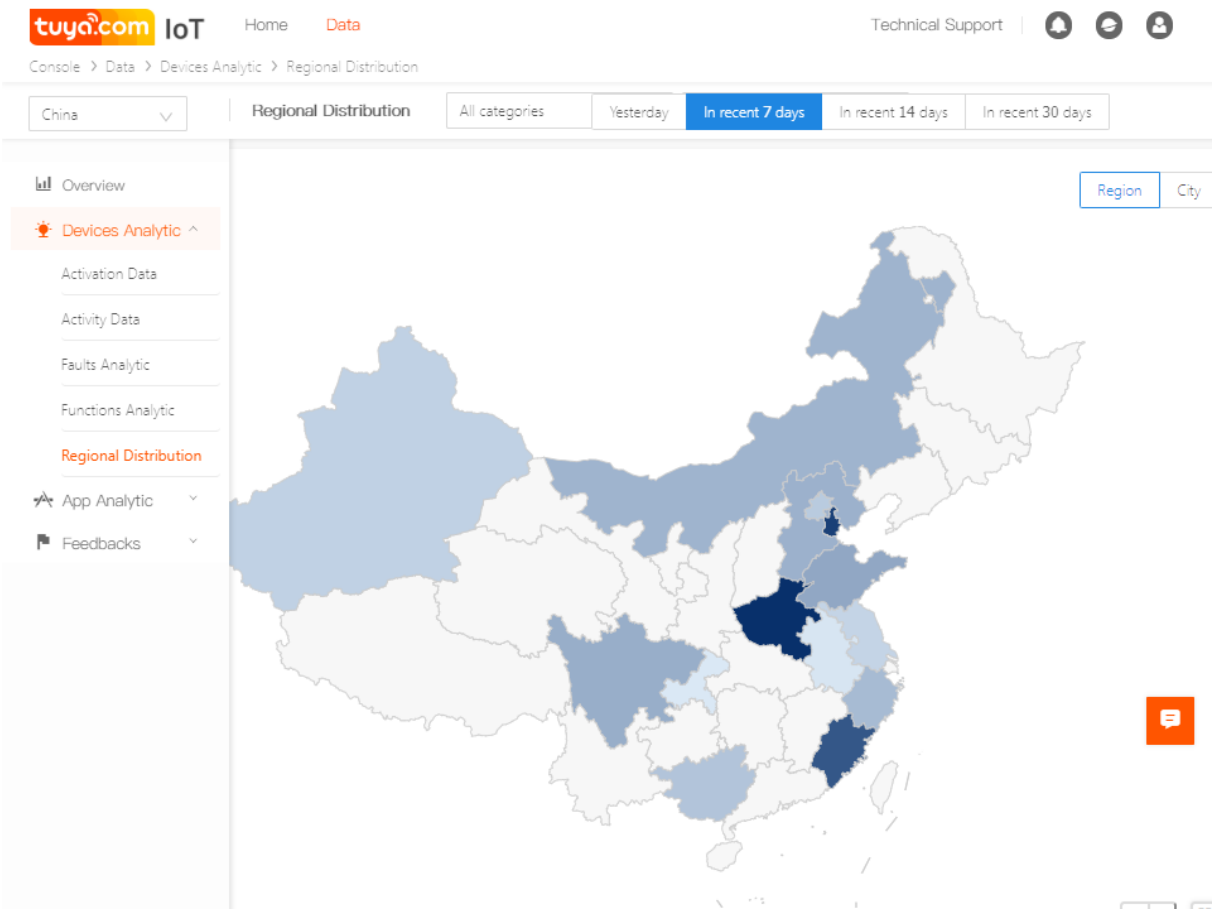


> For example, if the device use distribution map shows that a product is most used in Nanjing, you can focus promotion of the product in Nanjing.

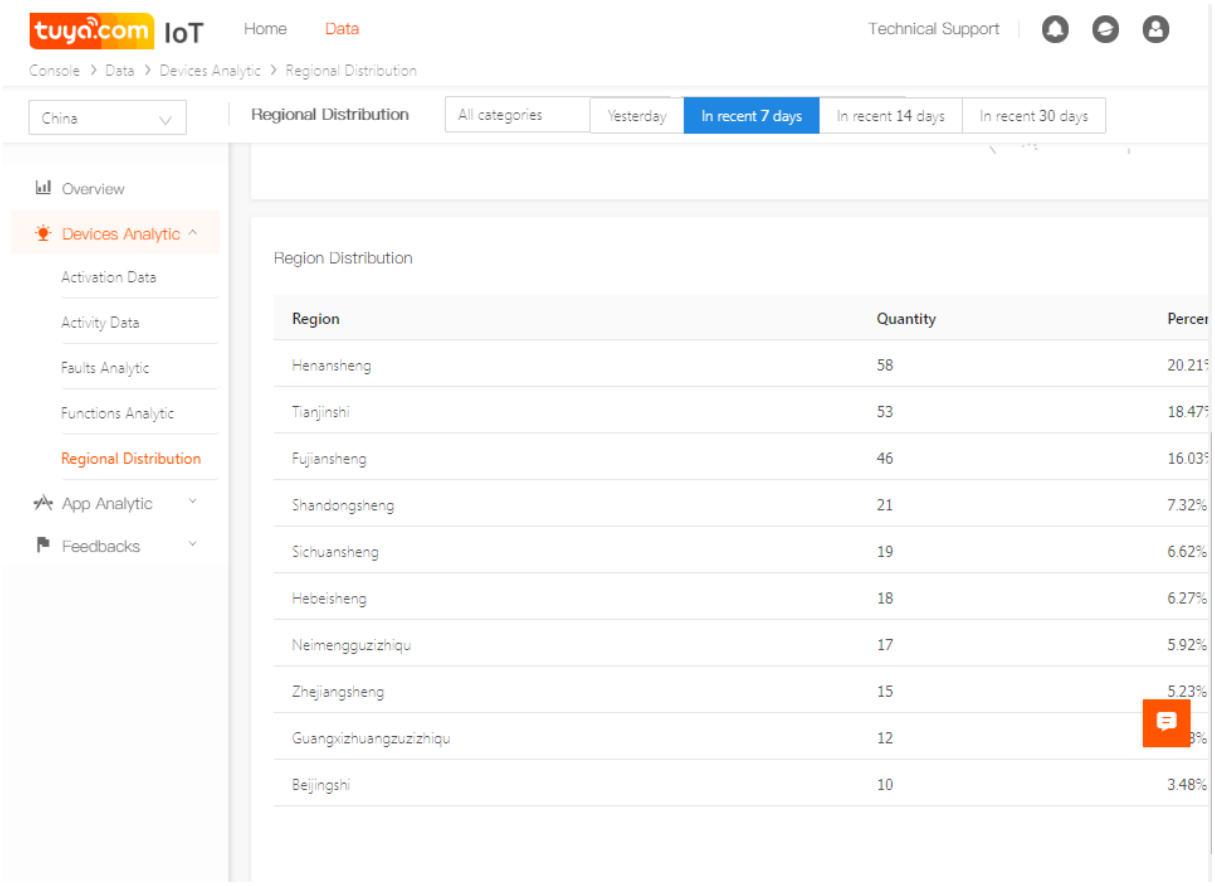
2.5.1 Parameter Description

- **Effective interactions**: indicates the number of devices reported through the DP function point under the current Tuya account on the current day. One device can report multiple times.
- **Device Activation**: indicates the number of devices that accessed the network for the first time and were bound to the App under the current Tuya account during the specific period.
- **Activation**: indicates the number of devices online over a specified time (excluding the same devices).

2.5.2 Charts



- **Region**: it can be filtered by “Effective interactions”, “Device Activation”, and “Activation”.
- **Region - Effective interactions**: displays the areas where devices that belong to all categories or the currently selected product have made effective interactions during a specific period.
- **Region - Device Activation**: displays the areas where devices that belong to all categories or the currently selected product are active during a specified period. (The map can show provinces and prefecture-level cities.)
- **Region - Activation**: displays the areas where devices that belong to all categories or the currently selected product have been activated during a specified period. (The map can show provinces and prefecture-level cities.)

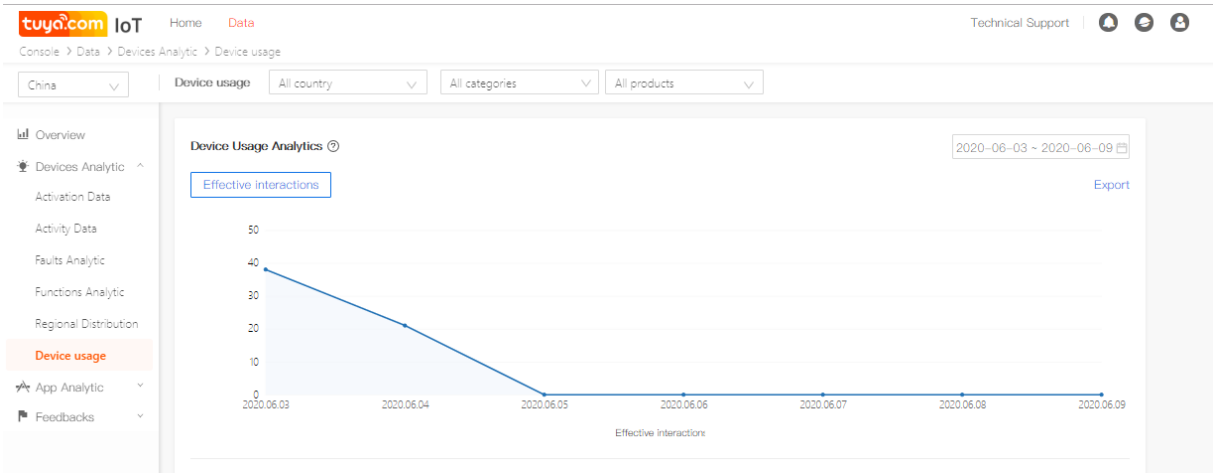


- **Region Distribution**: lists the quantity and percentage of active or activated devices in each province or prefecture-level city.

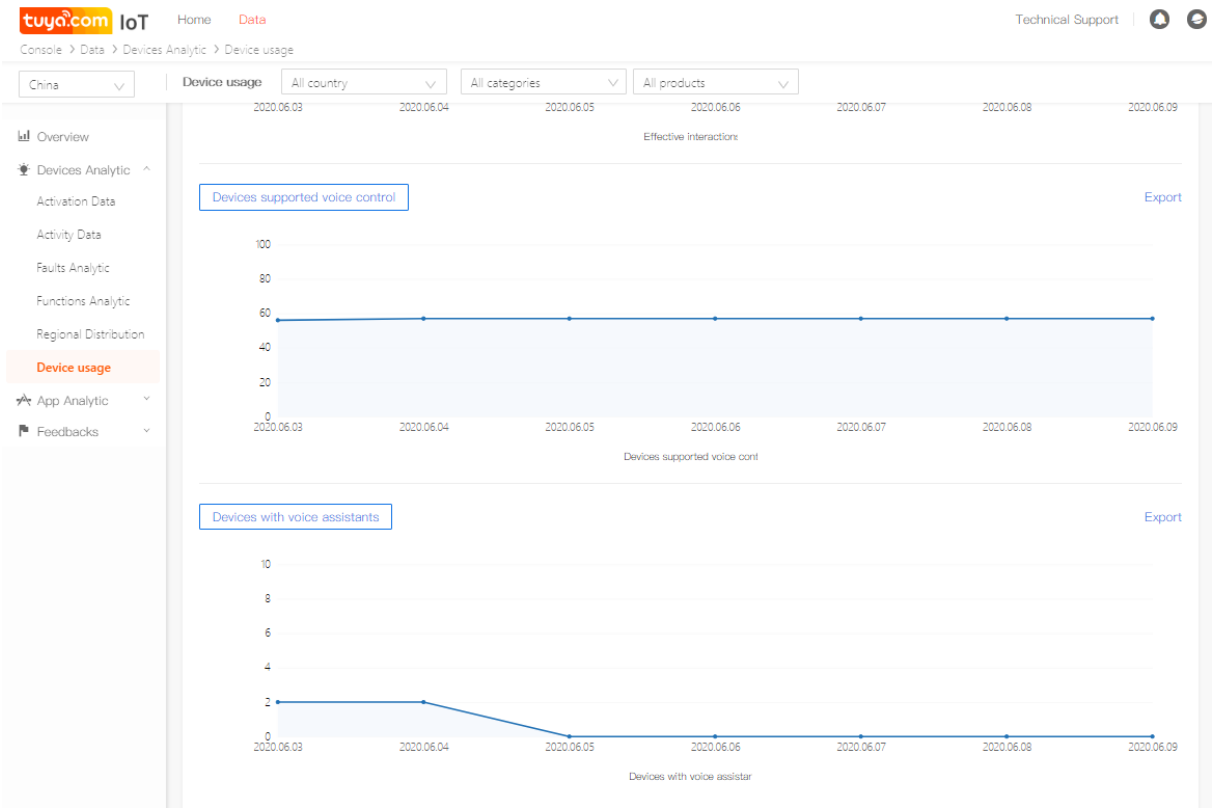
3 Device Usage (Value-Added Service)

Device usage has been added to Devices Analytic to provide you with as much information as possible in your analytic of devices interactions, the voice control function that App users used. You can find out the user preference based on the data, and optimize your products. Please refer to Tuya VAS to subscribe to the Free Edition (15 days validity period).

3.1 Device Usage Analytics



- Effective Interactions: indicates the number of user devices' direct interactions with the cloud within the statistical period.



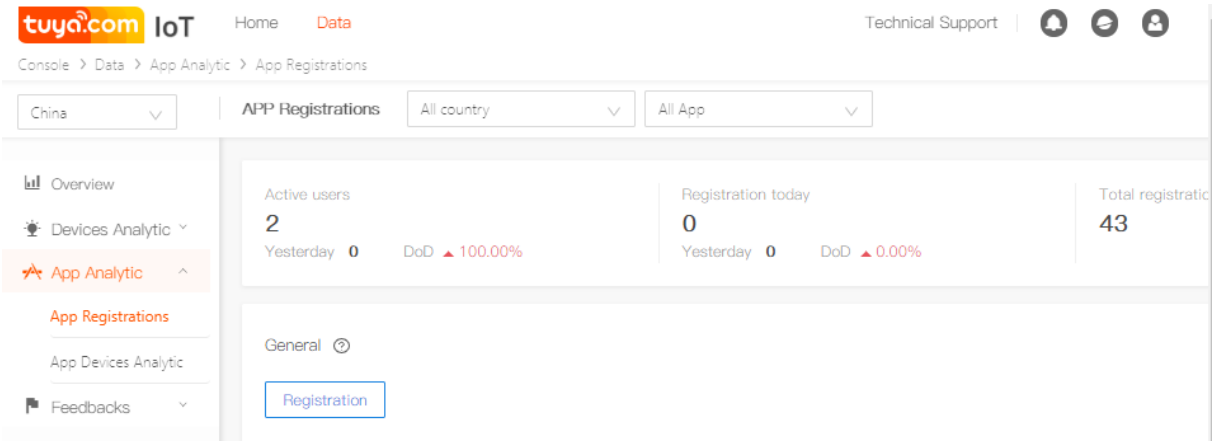
- Devices supported voice control: indicates the number of active devices that support voice control under the current account.
- Devices with Voice Assistant: indicates the number of user devices' voice interactions with the cloud within the statistical period.

4 App Analytic (for your OEM App)

4.1 App Registrations

App Registrations displays information about the users who register with your OEM App and active users. The information helps you understand how frequently consumers use your App and their usage habits, assisting you in improving the App and user experience.

> For example, if the number of users using your App on weekends is twice that on weekdays, you can carry out user operations and push marketing ads during weekends.



4.1.1 Parameter Description

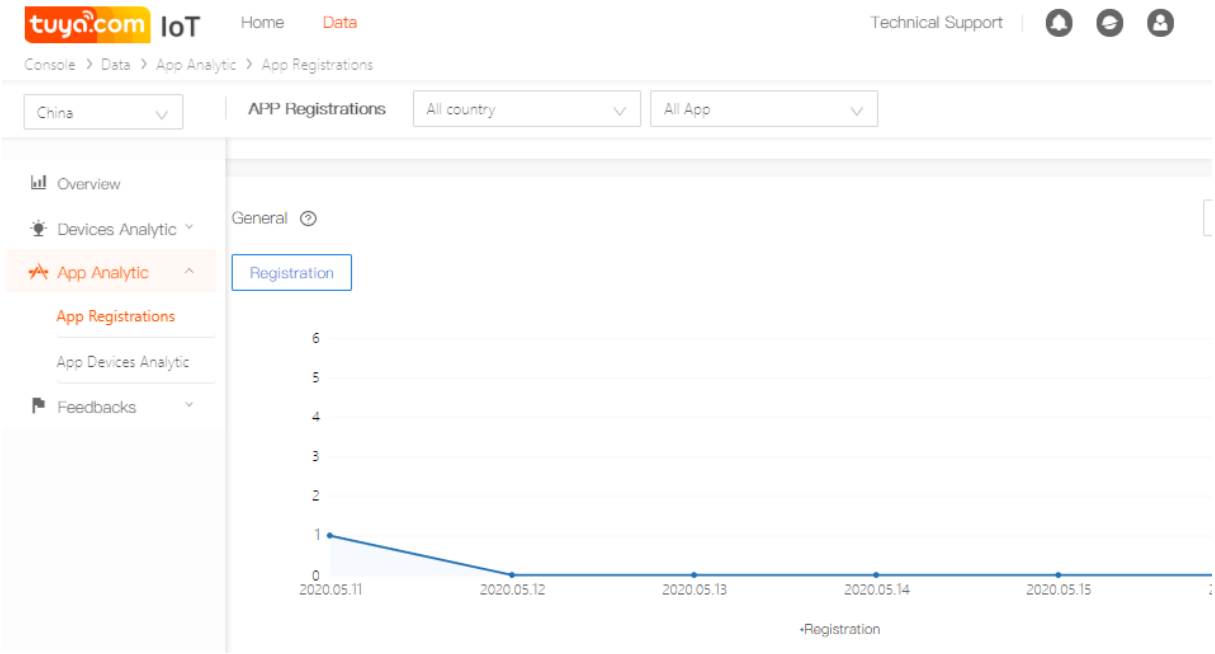
- **Active users (today)**: indicates the number of active App users (who request cloud APIs) on the current day.
- **(Active) Yesterday**: indicates the number of active App users for the previous day.
- **DoD** (under Active users): The value is calculated as follows:

  DoD = **Active today**/**Active yesterday** x 100%
- **Registration today**: indicates the number of users who registered an App account on the current day.
- **(Registration) Yesterday**: indicates the number of users who registered an App account on the previous day.

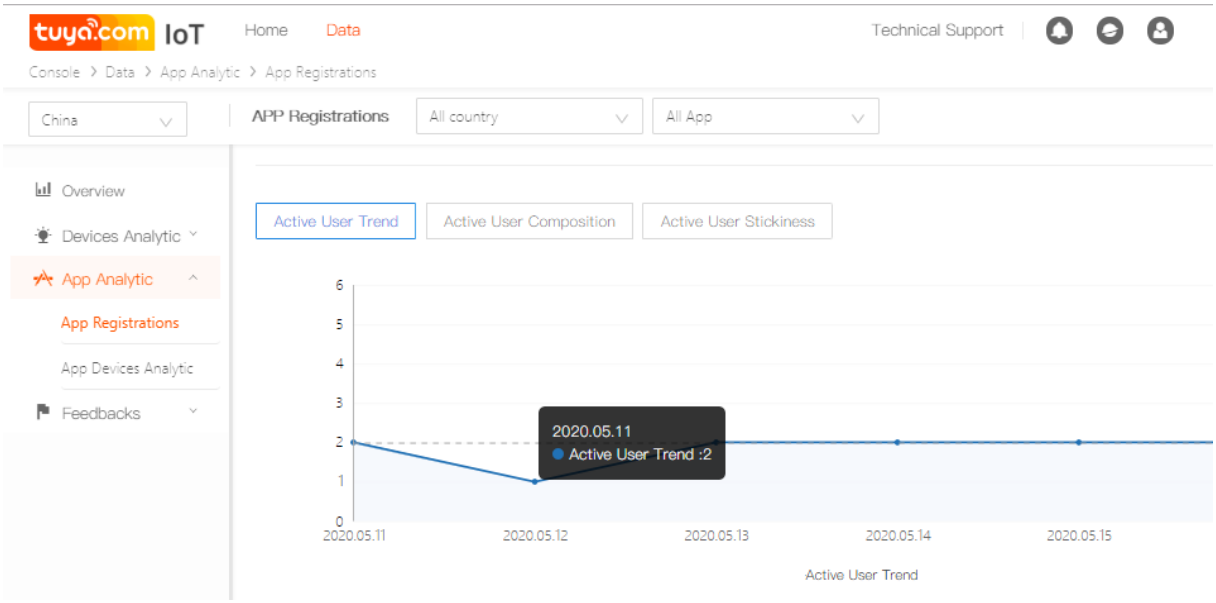
- DoD (under **Registration today**): **Registered today/Registered yesterday** x 100%
- **Total Registrations**: indicates the total number of registered users.

4.1.2 Charts

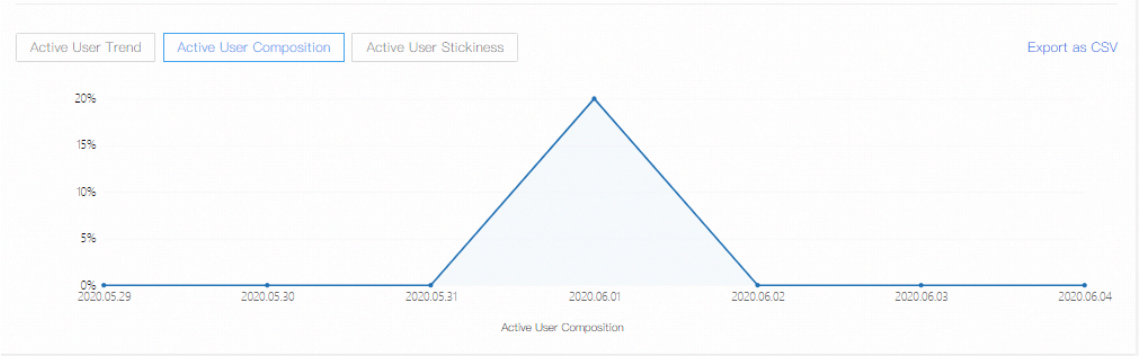
General: You can analyze the user registration and activity trends and see active user composition and stickiness charts here as well.



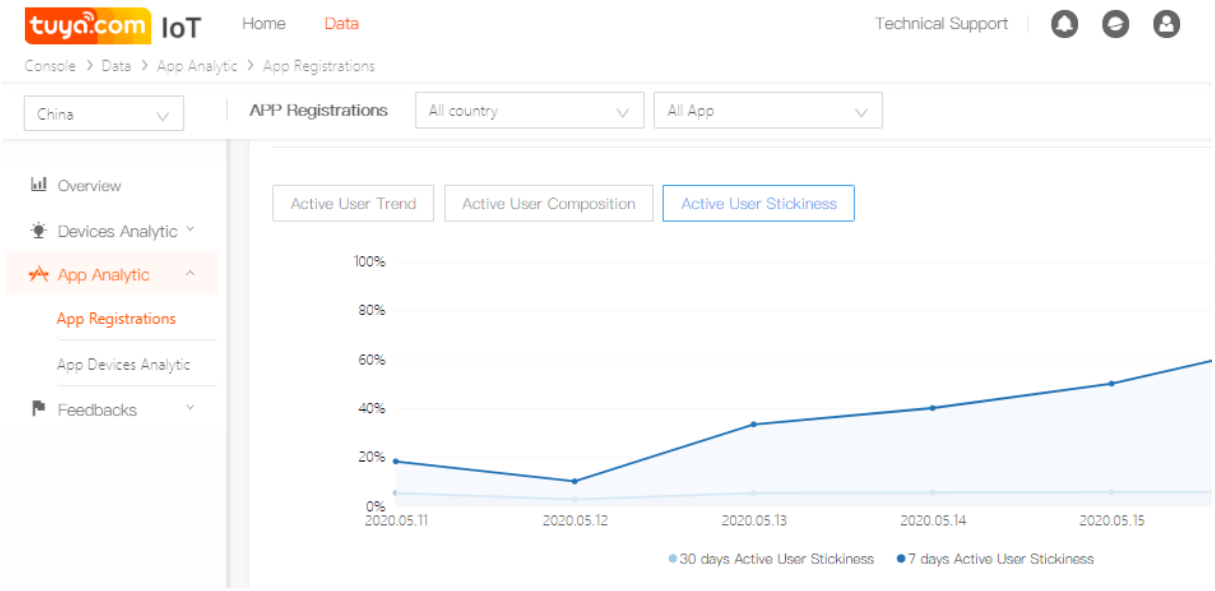
- **Users Registration trend** chart: shows the trends for daily user registrations over a specified period.



- **Active User Trend** chart: shows the trends for daily active users over a specified time.



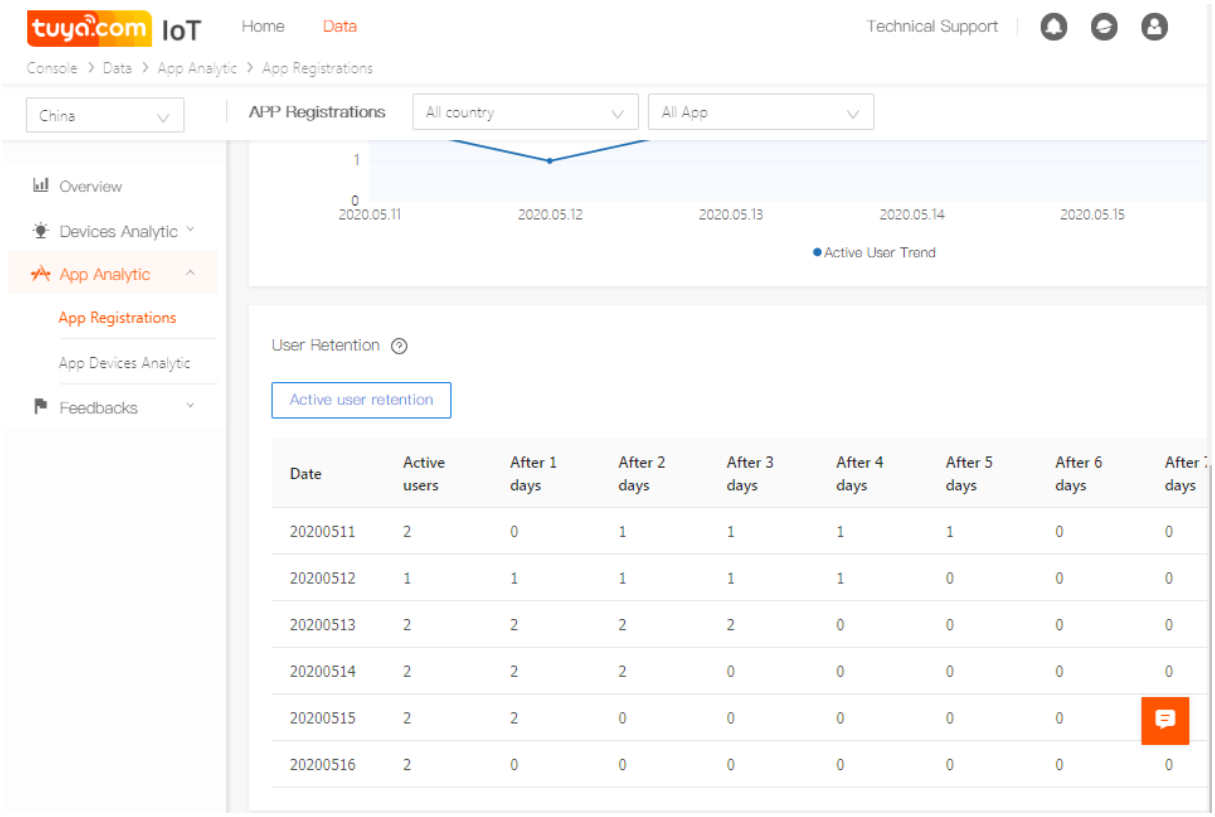
- **Active User Composition** chart: shows the trends for daily active user composition. The value is calculated as follows:
  Active User Composition = Registrations on the current day / Number of activated users on the current day x 100%



- **Active User Stickiness** chart: shows the trends for daily active devices composition.
  - **30 days Active User Stickiness**: The value is calculated as follows:

    30 days Active User Stickiness = Devices active on the current day / Number of active devices for the past 30 days (excluding the current day) x 100%
  - **7 days Active User Stickiness**: The value is calculated as follows:

    7 days Active User Stickiness = Devices active on the current day / Number of active devices for the past 7 days (excluding the current day) x 100%



User Retention is when users of an app continue to use it over some specified period.

Active user retention chart: shows the number of active users continuing to use the app during a specific period.

Active Retention rate is calculated as follows:

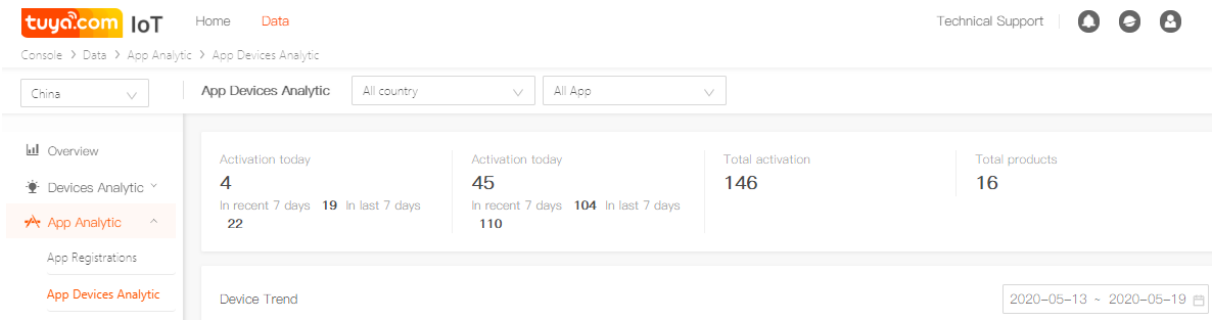
Active Retention rate = The number of active users continuing to use the app /

total active users at the start of a period X 100%

You can view retention rates for different periods based on the devices.

4.2 App Devices Analytic

4.2.1 Overview and Product Proportion

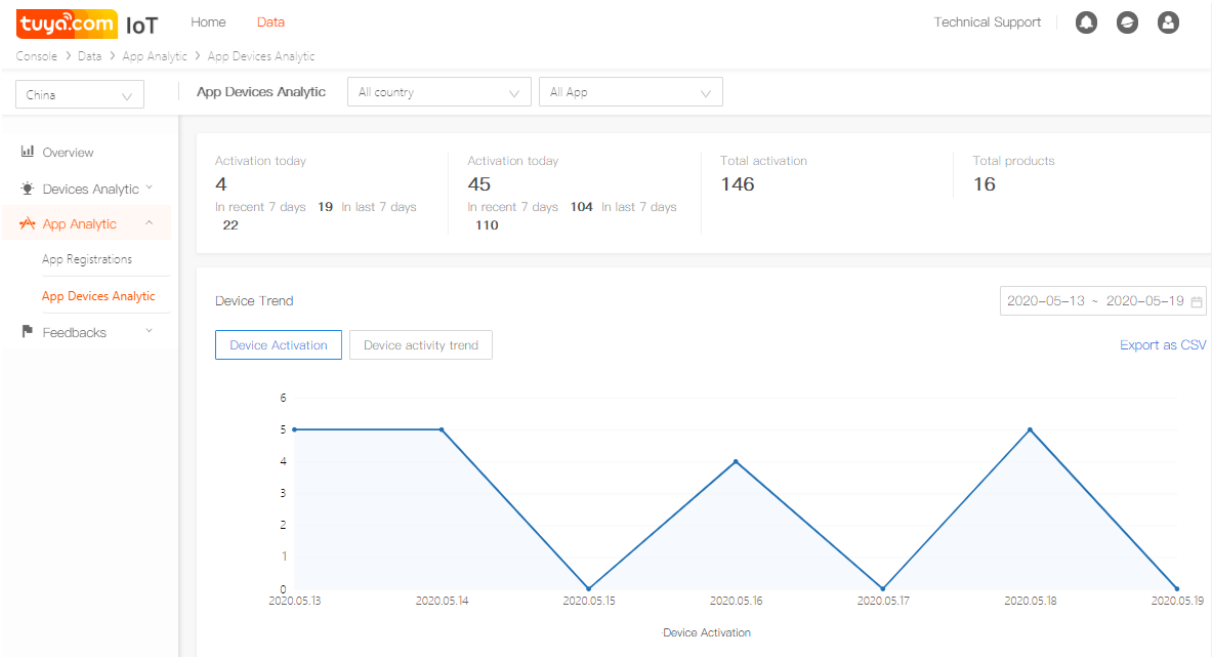


Overview

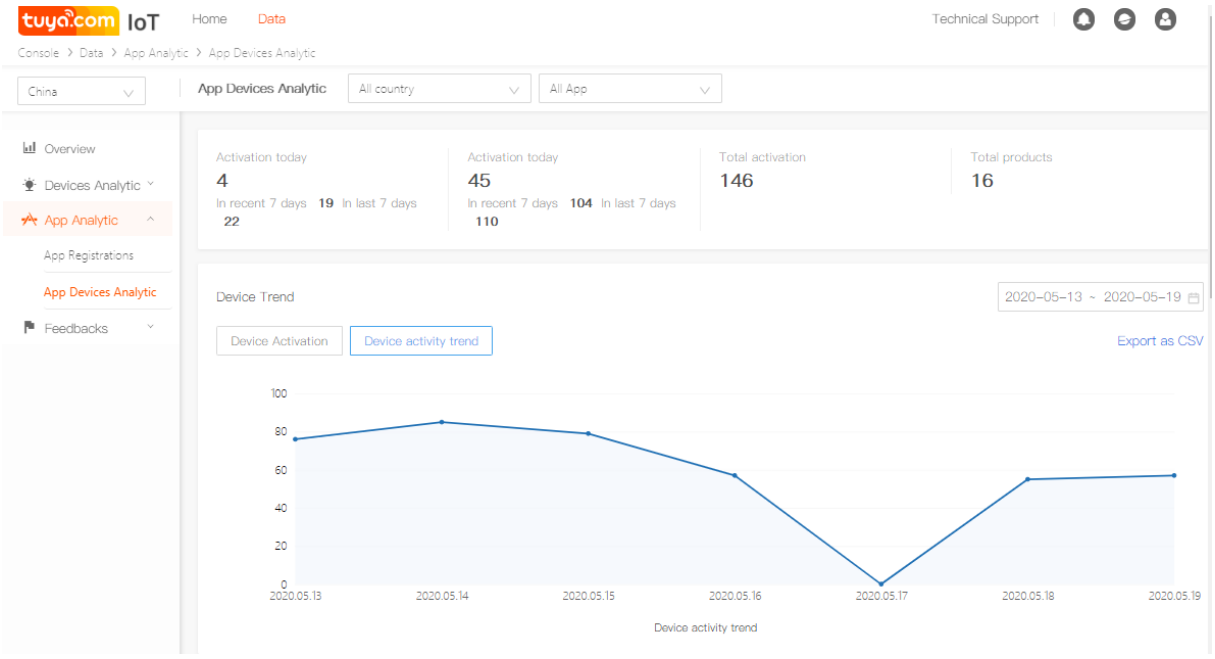
- **Activation today**: indicates the number of devices that were activated through the App for the first time on the current day.
- **Activation in recent 7 days**: indicates the total number of devices that were activated for the first time through the App in the past seven days (excluding the current day).
- **Activation in last 7 days**: indicates the total number of devices that were activated for the first time through the App during the week before the past week.
- **Devices active today**: indicates the number of online devices on the current day.
- **Active in recent 7 days**: indicates the number of online devices for the past seven days (excluding the current day).
- **Active in last 7 days**: indicates the number of online devices for the week before the past week.
- **Total activation**: indicates the total number of devices that have been bound to the App.
- **Total products**: indicates the number of products to which the devices bound to the App belong.

4.2.2 Devices Activation Trend

The **Devices Activation Trend** chart shows the trend for daily bound devices over a specified time.



4.2.3 Device Activity Trend

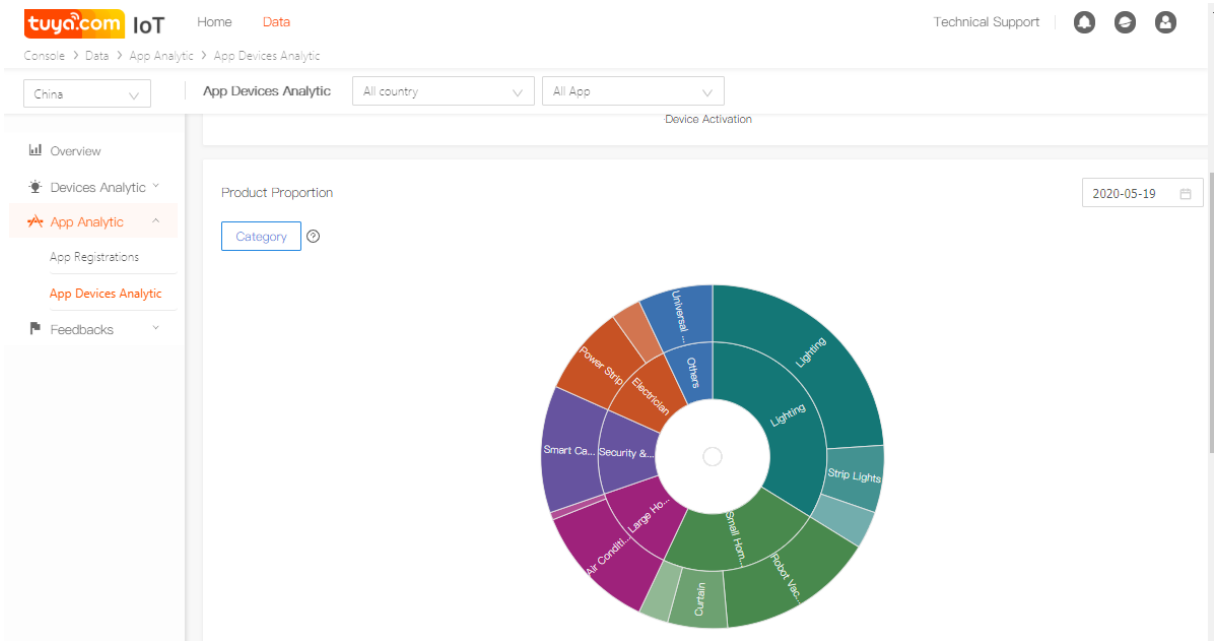


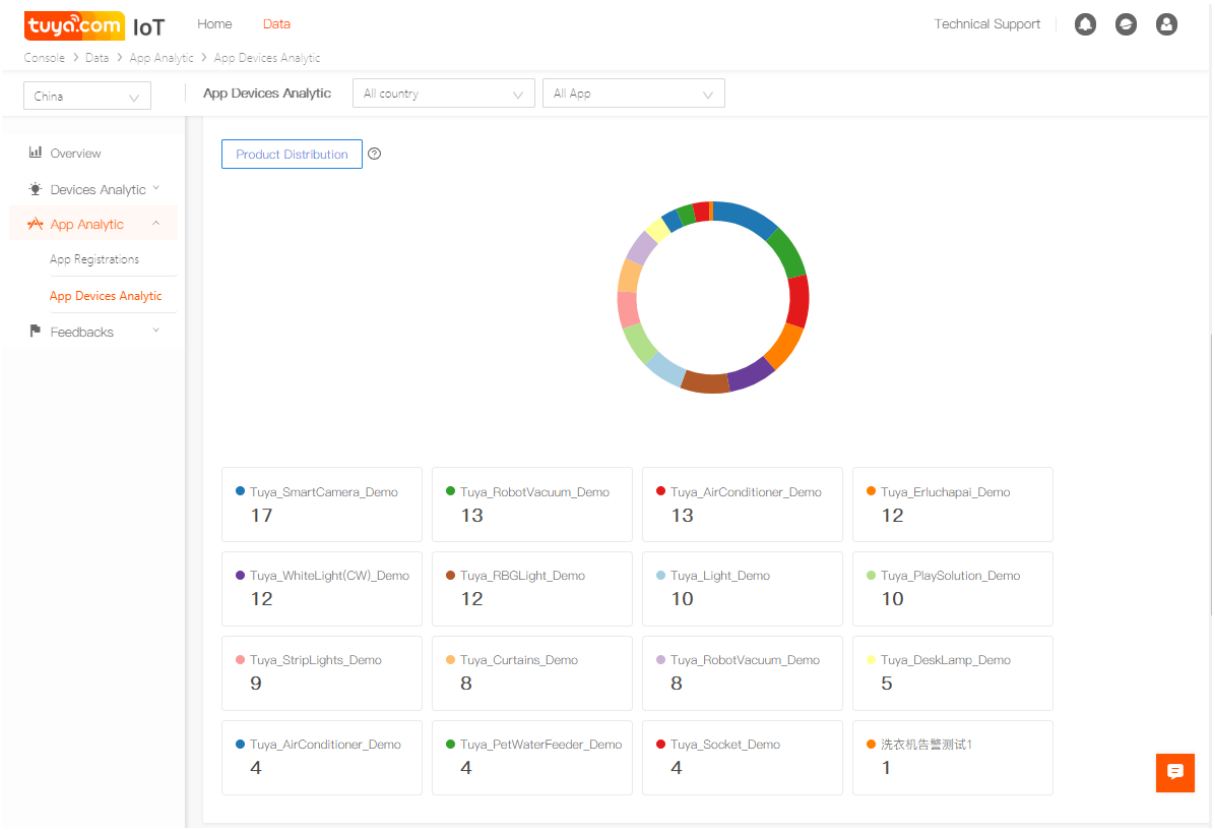
The **Device Active Trends** chart shows the trends for daily active devices over a specified time.

Note: If a device was active during the past seven days and the seven days before that, the device is counted in either **Active in recent 7 days** or **Active in last 7 days**. The single count mode is incorrect and will be modified to a double count mode.

4.2.4 Product proportion

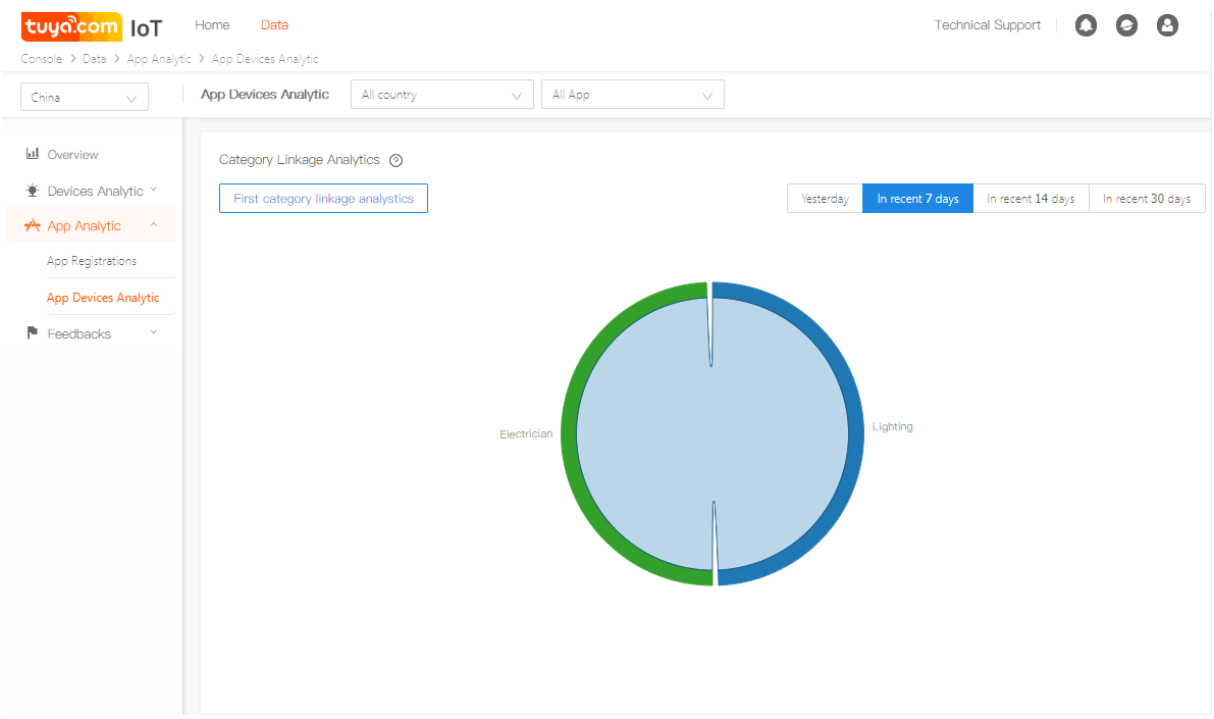
Product proportion sunburst chart: shows percentages of devices bound to the App. Statistics about a maximum of 20 products with the most devices bound to the App are calculated and displayed.





4.2.5 Category Linkage Analytics

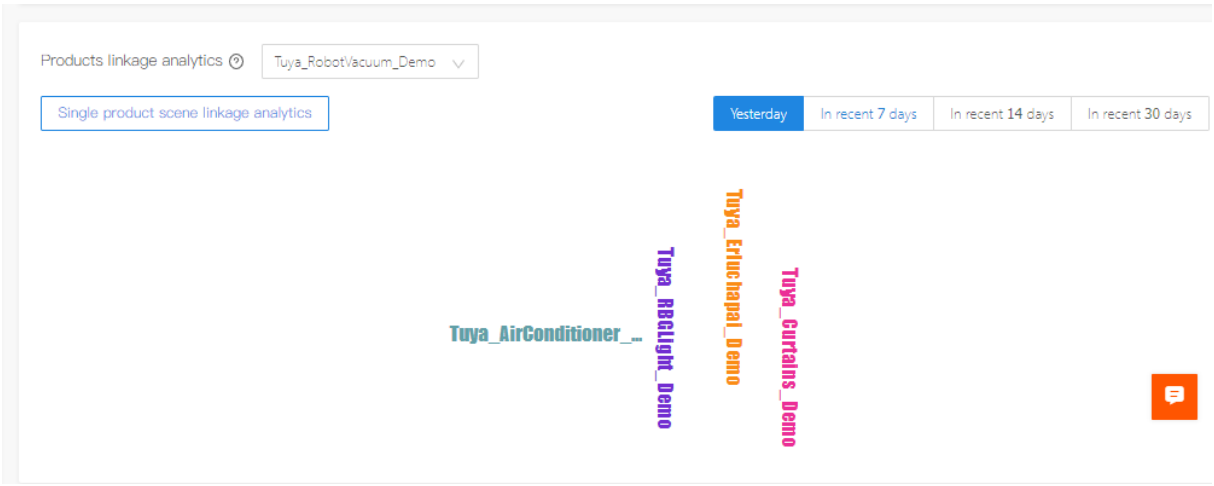
Linkage means that multiple devices in one scene are triggered at the same time. Here, we are counting the linkage of the first category, ie. the linkage times of lighting and electrical products. You can analyze the customer behavior by looking into the linkage data with a chord diagram.



- **First category linkage analytics**: indicates the linkage times of the first category over a specified time.

4.2.6 Products linkage analytics

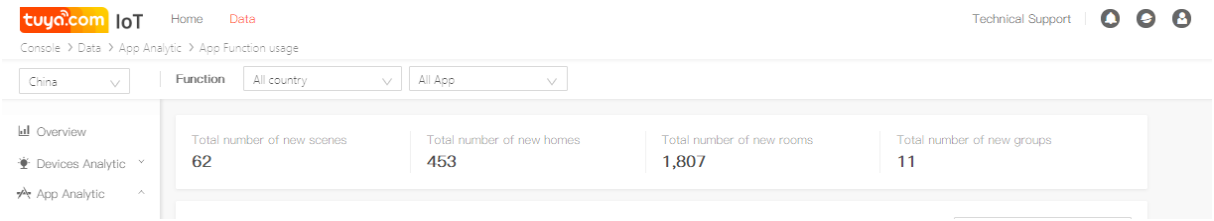
The linkage means that multiple devices under one scene can be triggered at the same time. By analyzing the linkage, you are able to know consumer behaviors for selecting and selling products.



- **Single product scene linkage analytics**: indicates the linkage times of multiple devices triggered by one scene over a specified time. For example, the linkage times of desk lamps and sockets.

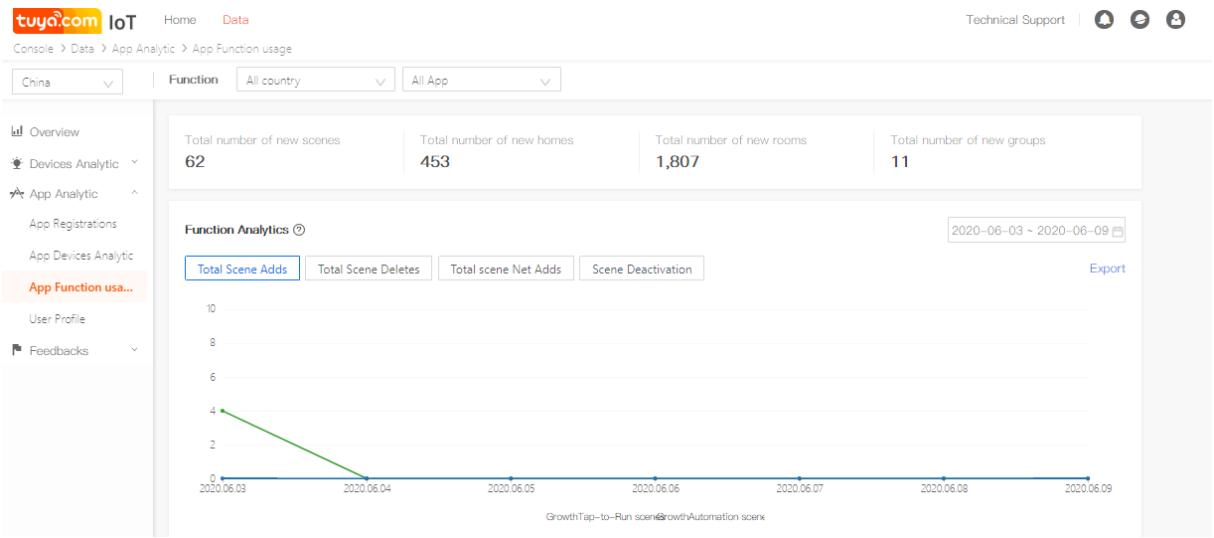
5 App Function Usage (Value-Added Service)

The **App Function Usage** module focuses on profiling functions' usage of Apps. You can get the data of the function analytics comprehensively and intuitively. It shows the data of scenes, homes, rooms, and groups being added, deleted, shared, and deactivated for you to better understand the user behavior. Please refer to Tuya VAS to subscribe to the Free Edition (15 days validity period).



- Total number of New Scenes: indicates the accumulative number of user-created scenes (excluding today's data).
- Total number of New Homes: indicates the accumulative number of user-created homes (excluding today's data).
- Total number of New Rooms: indicates the accumulative number of user-created rooms (excluding today's data).
- Total number of New Groups: indicates the accumulative number of user-created groups (excluding today's data).

5.1 Function Analytics



- **Total Scenes Adds**: The number of scenes created during the statistical period.
- **New Tap-to-Run Scenes**: The number of tap-to-run scenes created during the statistical period.
- **New Automation Scenes**: The number of automation scenes created during the statistical period.
- **Total Scene Deletes**: The number of scenes deleted during the statistical period.
- **Total Scene Net Adds**: The number of new scenes minus the number of deleted scenes.
- **Scene Deactivation:** The number of new automation scenes minus the number of deleted automation scenes.

- **Growth Trends** of New Homes: shows the number of homes created during the statistical period.
- **Delete Trends** of Homes: shows the number of homes deleted during the statistical period.
- **Net growth trend** of Homes: shows the number of new homes minus the number of deleted homes.
- **Shared** Homes: shows the number of homes that users under the current

account proactively share during the statistical period. (A home will be counted repeatedly if it is shared with multiple users.)

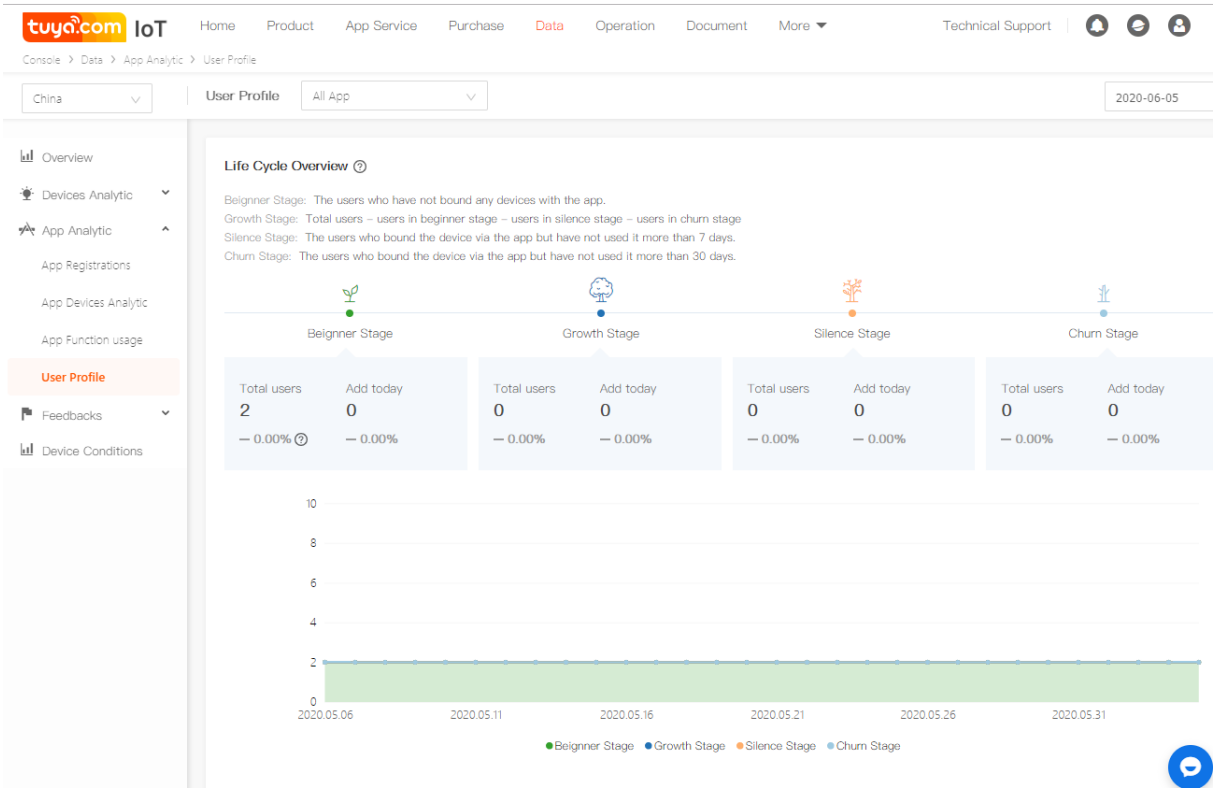
- **Number of New Groups**: shows the number of groups created during the statistical period.
- **Number of Deleted Groups**: shows the number of groups deleted during the statistical period.
- **Net increase in the number of groups**: shows the number of new groups minus the number of deleted groups.
- **Number of Shared Groups**: shows the number of groups that users under the current account proactively share during the statistical period. (A group will be counted repeatedly if it is shared with multiple users.)

6 User Profile (Value-Added Service)

The section including “Life Cycle overview”, “User level”, and “Active user distribution today”. You can better understand your device performance, such as specific features, user engagement, and more. Please refer to Tuya VAS to subscribe to the Free Edition (15 days validity period).

6.1 Life Cycle Overview

It defines the collective management processes for every App user account. These processes can be broken down into Beginner Stage, Growth Stage, Silence Stage, and Churn Stage. The data will help you get to know the numbers and percentage of App users in different life cycles quickly.



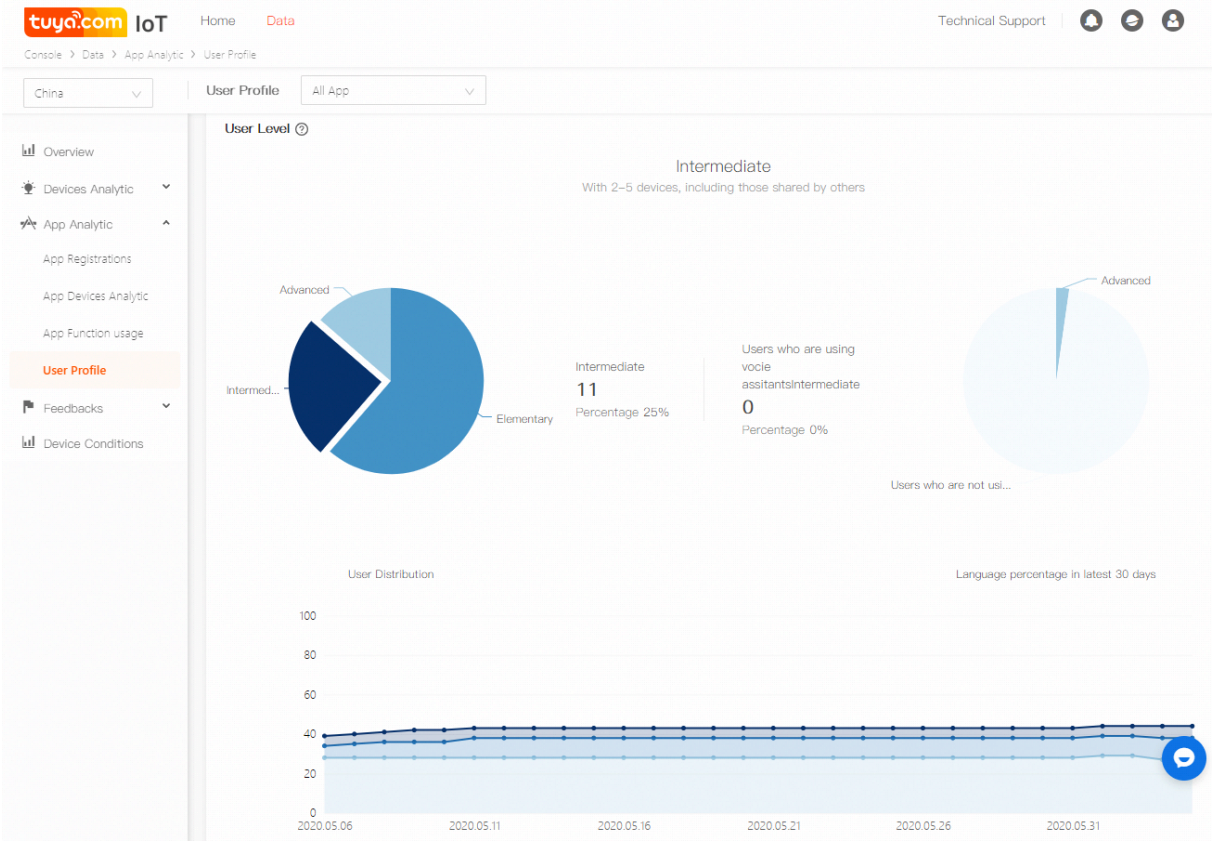
- Users at **Beginner Stage**: shows the number of users who have downloaded the app but not bound any devices as of the end date of the statistical period.
- Users at **Growth Stage**:

Users at Growth Stage = Total number of users – Users at Beginner Stage – Users at Silence Stage – Users at Churn Stage

- Users at **Silence Stage**: shows the number of users who have bound devices but been inactive for over 7 to 30 days as of the end date of the statistical period.
- Users at **Churn Stage**: shows the number of users who have bound devices but been inactive for over 30 days as of the end date of the statistical period.

6.2 User Level

Based on the number of devices a user owns or shares, we divide the users into three levels, Elementary, Intermediate, and Advanced. You can see trends of different level users, and their usage of voice features in the recent 30 days in this section.

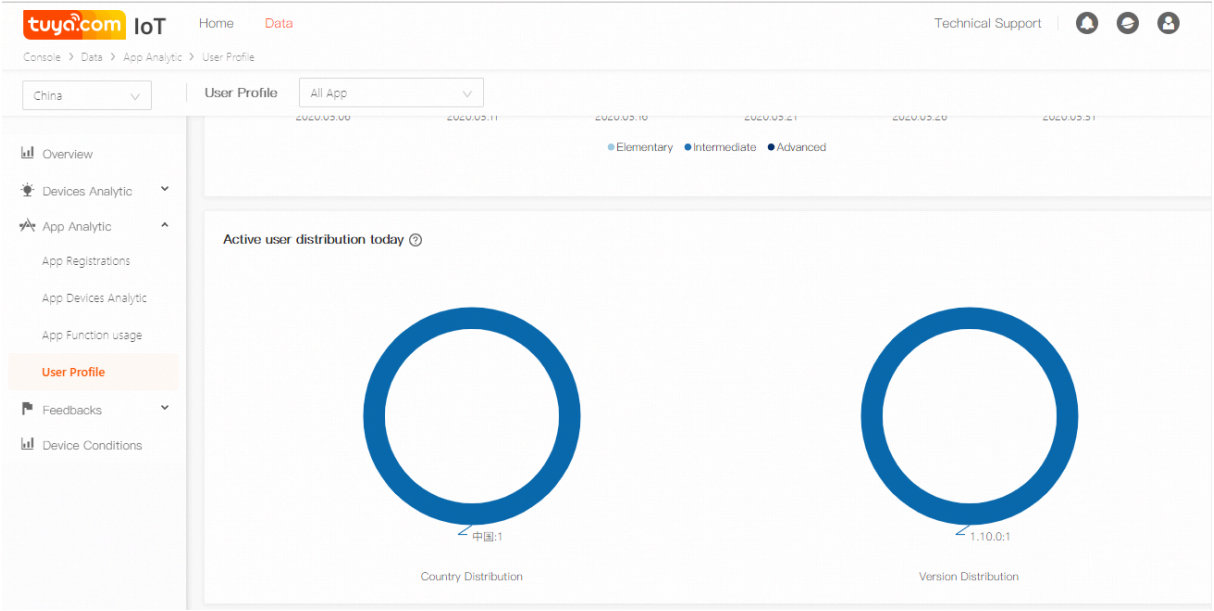


- **Elementary** Users: shows the number of users who own or are shared with one device as of the end date of the statistical period.

- **Intermediate** Users: shows the number of users who own or are shared with two to five devices as of the end date of the statistical period.
- **Advanced** Users: shows the number of users who own or are shared with more than five devices as of the end date of the statistical period.
- **Users Who Used Voice Assistant in last 30 Days**: shows the number of users who had voice interactions with the cloud in the last 30 days.
- **Users Who Did Not Use Voice Assistant in last 30 Days**: shows the number of users who did not have voice interactions with the cloud in the past 30 days.

6.3 Active user distribution today

It shows distributions of user area and app version by a certain date. Only the top 9 areas and versions information will be demonstrated.

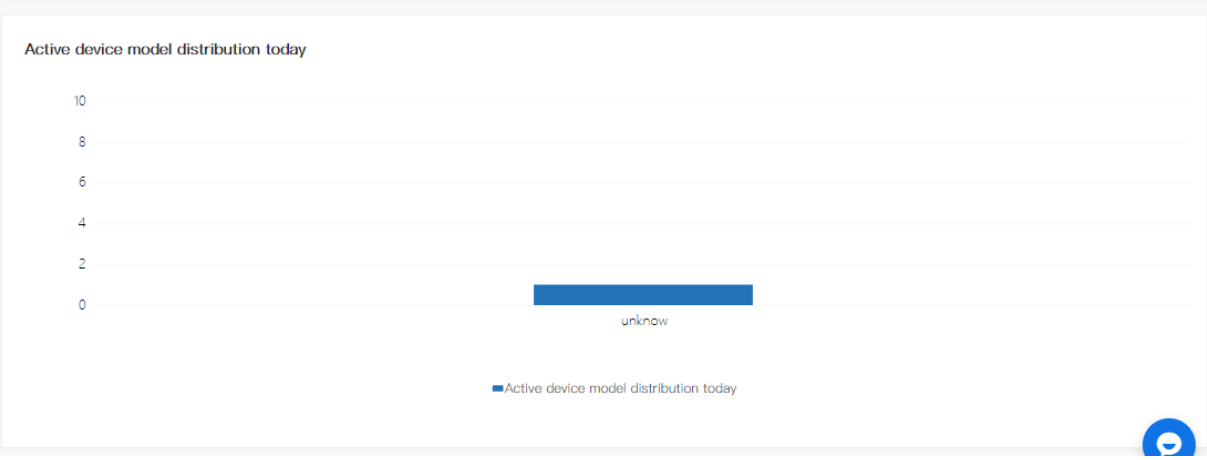


- Country Distribution: shows the country-based distribution of active users.
- Version Distribution: shows the version-based distribution of active users.

6.4 Active device model distribution today

It shows the distribution of device model that App users using on the current day. Only the top 19 devices information will be demonstrated, and other device models

will be classified as “Other”. You can learn which type of devices that your App users prefer to use.

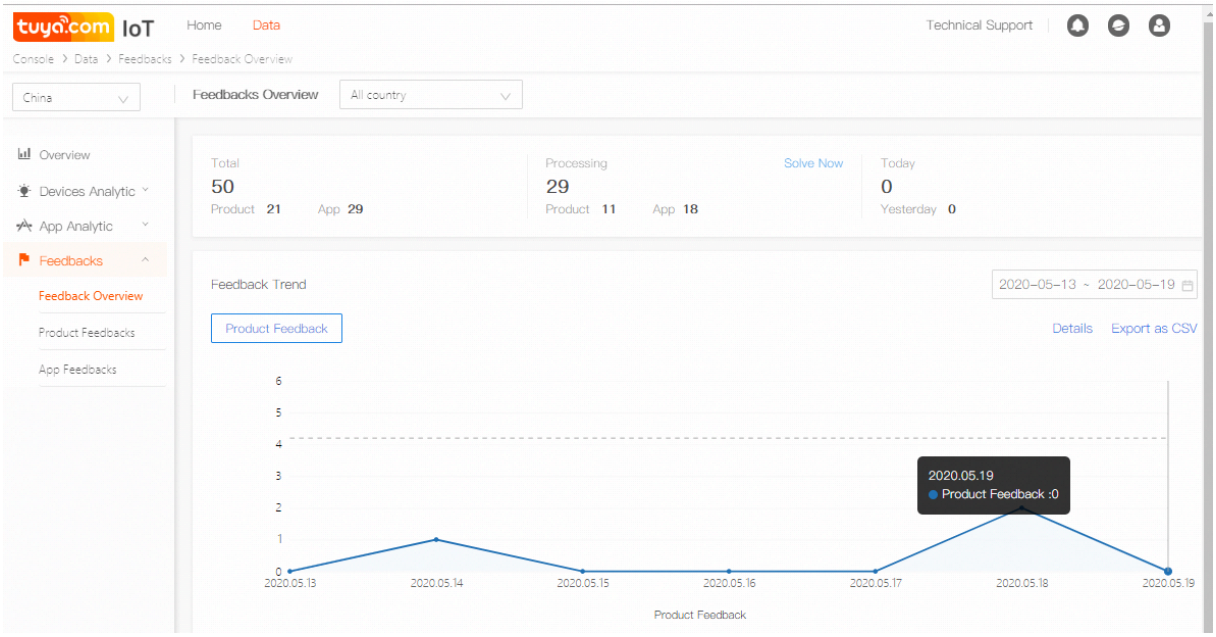


- **Active device model distribution today**: shows the device model–based distribution of active users on the current day.

7 Feedback

7.1 Feedback Overview

Problems that users report are classified into product problems and App problems (related to the OEM App, Tuya Smart, and Smart Life). **Feedback** displays processed and to-be-processed problems, App versions, and products, helping you quickly locate problems that occur during product or App use and efficiently optimize your products and services.



7.1.1 Parameter Description

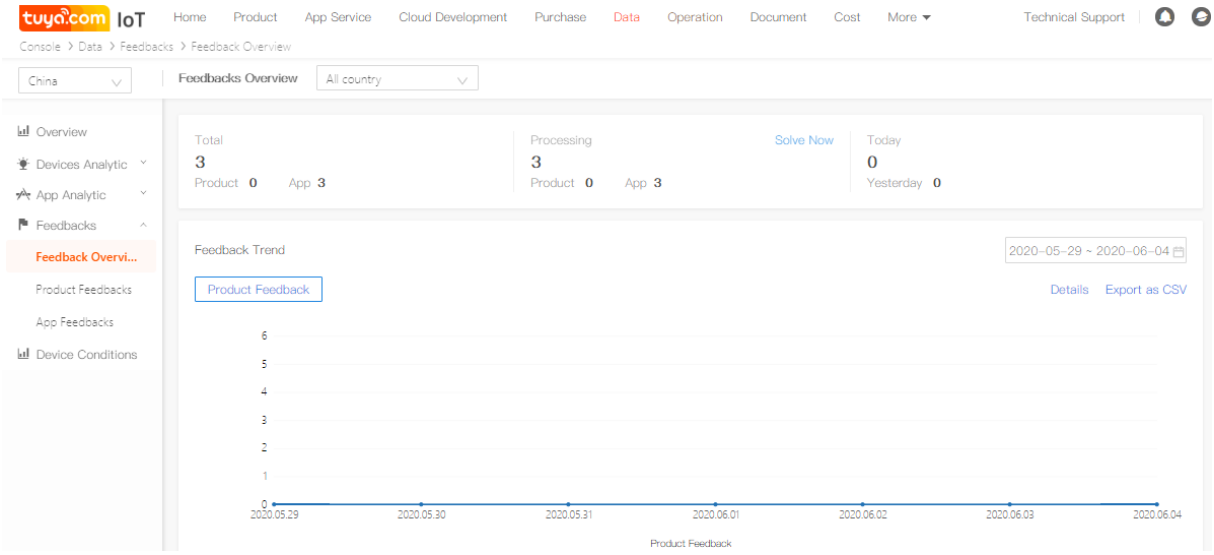
- **Total**: indicates the total number of times that users report feedback through Apps.
- **Product** (under **Total Feedbacks**): indicates the number of times that users report product-related feedback through Apps.
- **Processing:** indicates the number of feedbacks to be processed through Apps. You can click “Solve Now” on the right to enter the User Feedback Center for immediate processing and to optimize the user experience.
- **Today**: indicates the number of feedback messages that users reported through Apps on the current day.

- **Yesterday**: indicates the number of feedback messages that users reported through Apps on the previous day.

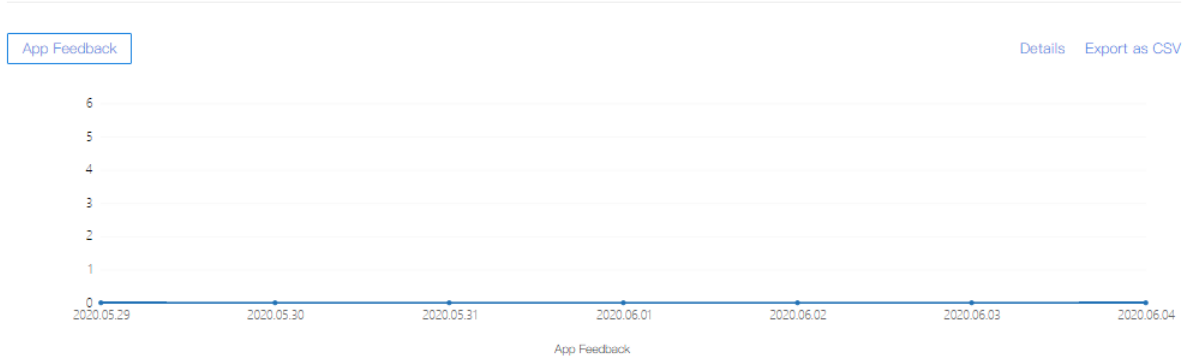
7.1.2 Charts

Feedback Trend

Product Feedback chart: shows the trends for daily product-related feedback over a specified time.

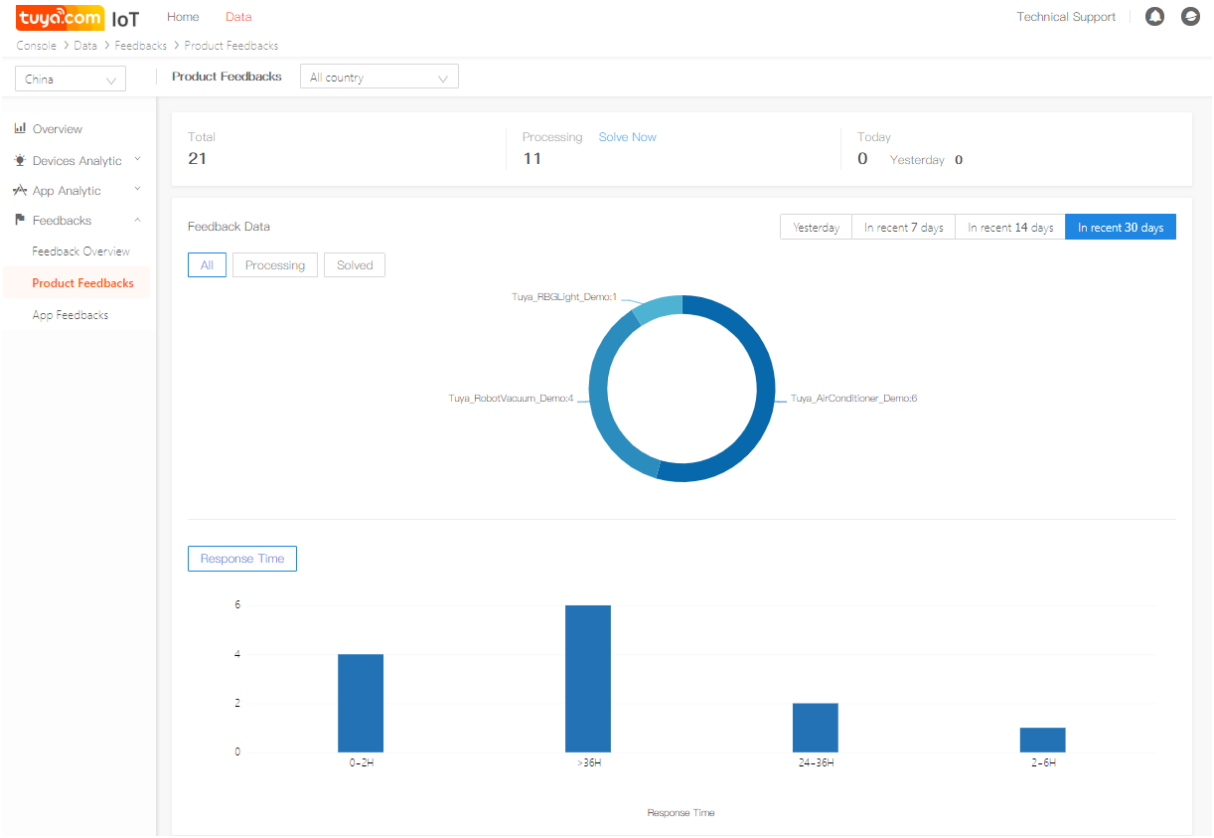


App Feedback chart: shows the trends for daily App-related feedback over a specified time.



7.2 Product Feedbacks

Product Feedbacks displays information about the problems that consumers encounter during product use, including the number of all and new problems, the number of to-be-processed problems, feedback distribution, and feedback handling time, helping you analyze the feedback from multiple aspects and improve product quality and user experience.



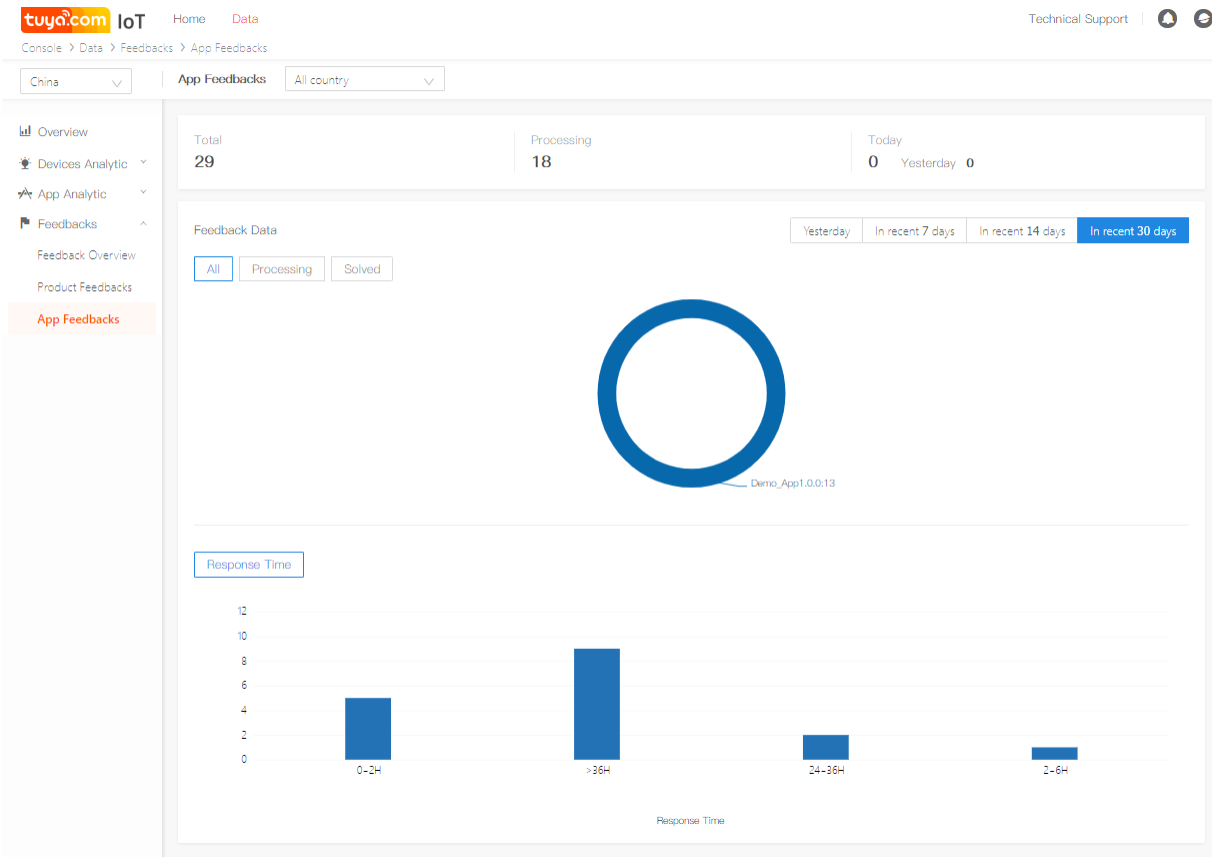
- **Product Feedbacks** chart: shows percentages of product problems that users report through Apps during a specified period to all product-related feedback messages.
- **Response Time** (under Product Feedbacks) chart: shows the distribution of processing time required by product feedbacks.

7.3 App Feedbacks

App Feedbacks displays information about the problems that consumers encounter during App use, including the number of all and new problems, the number

of to-be-processed problems, feedback distribution, and feedback handling time, helping you analyze the feedback from multiple aspects and improve your App and user experience.

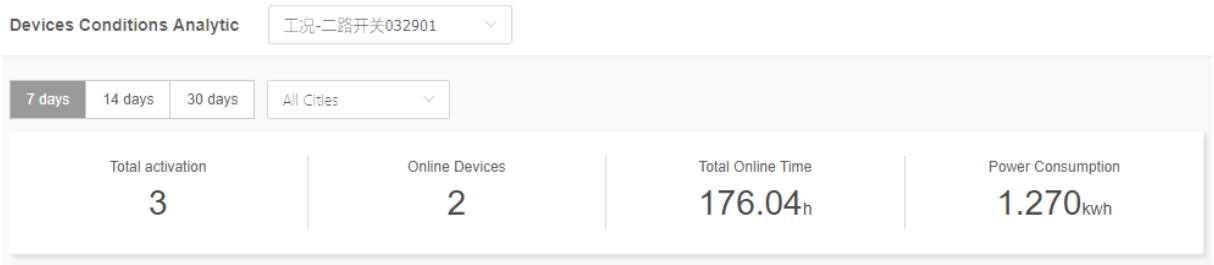
> For example, after receiving a large number of App problems, you can check the **App** chart on the page to locate the App version. For example, you may find that most problems occur in version 2.1. Then you can send the information to the R&D personnel to help quickly solve the problems and upgrade the App.



- **Overview**: including total App feedbacks, processing feedbacks, feedbacks users report through Apps today and yesterday.
- **App** feedback chart: shows percentages of App problems that users report through Apps during a specified period to all App-related feedback messages.
- **Response Time** (under App Feedbacks) chart: shows the distribution of processing time required by App feedbacks.

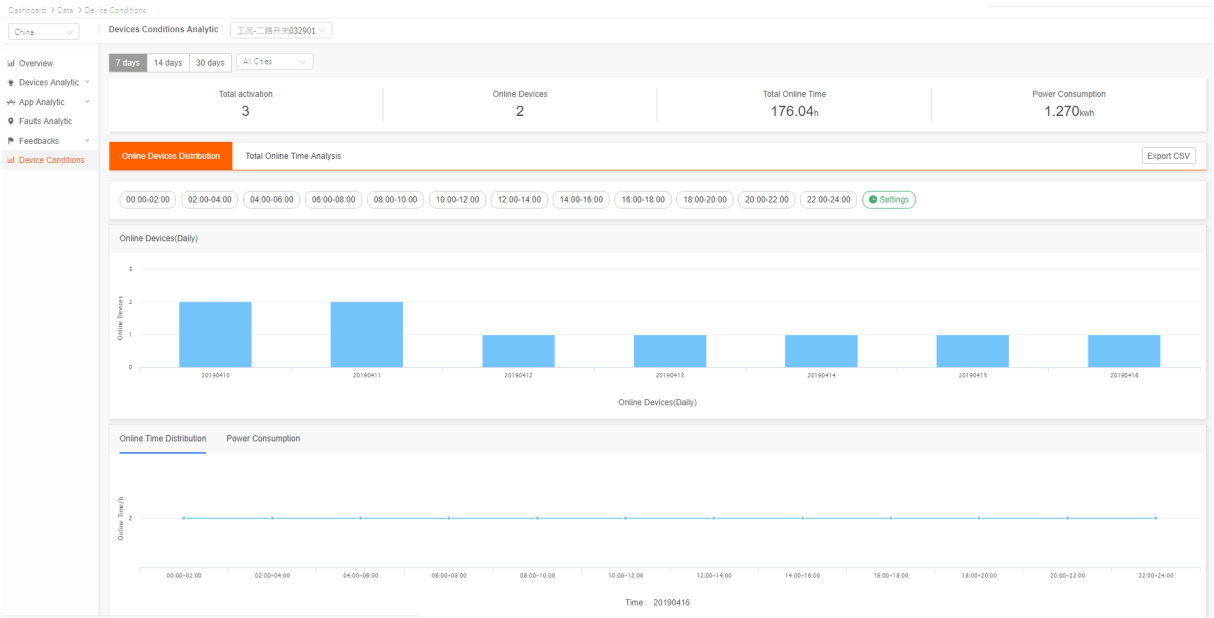
8 Devices Conditions Analytic

8.1 Device Conditions Overview



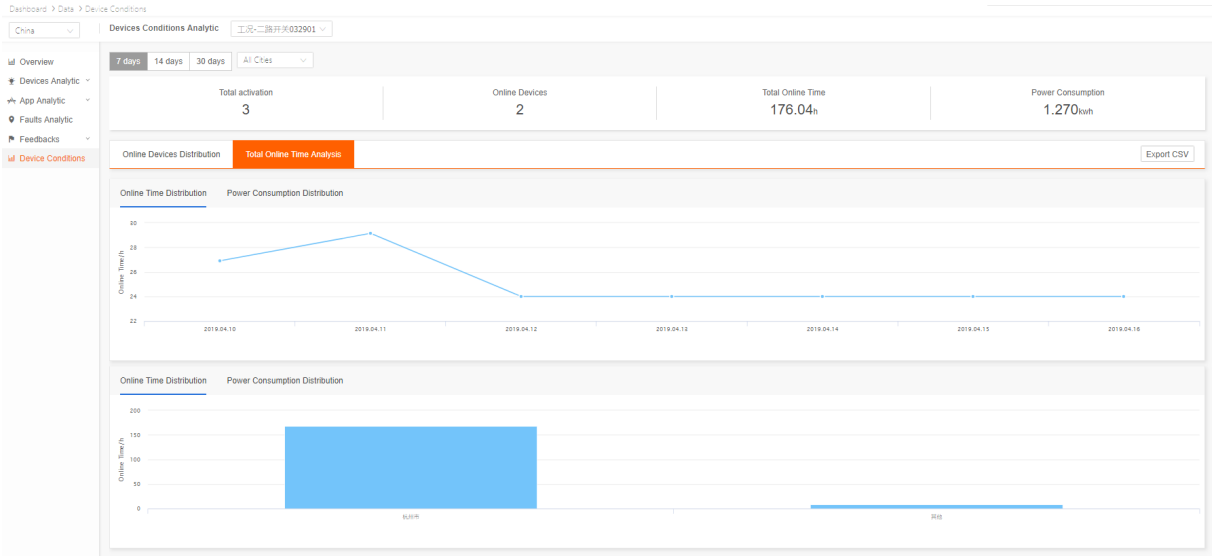
- **Total activation**: indicates the total number of activated devices that belong to the selected product.
- **Online Devices**: indicates the number of devices that belong to the selected product and have been powered on within 7 days, 14 days, or 30 days. (A device is considered to be online after it is powered on.)
- **Total Online Time**: indicates the cumulative amount of online time of devices that belong to the selected product within 7 days, 14 days, or 30 days.
- **Power Consumption**: indicates the cumulative amount of power consumption of devices that belong to the selected product within 7 days, 14 days, or 30 days.

8.2 Online Devices Distribution



- **Online Devices** chart: shows the number of daily online devices that belong to the selected product within 7 days, 14 days, or 30 days.
- **Online Time Distribution** chart: shows the trends for online time of all devices within different time segments throughout the day that you select. (The time segments are configurable.)
- **Power Consumption** chart: shows the trends for power consumption of all devices within different time segments throughout the day that you select. (The time segments are configurable.)

8.3 Total Online Time Analysis



- **Online Time Distribution** chart: shows the trends for the daily online time of devices that belong to the selected product over 7 days, 14 days, or 30 days.
- **Power Consumption Distribution** chart: shows the trends for daily power consumption of devices that belong to the selected product over 7 days, 14 days, or 30 days.
- **Online Time Distribution** chart (city-based): shows the city-based cumulative amounts of online time of devices that belong to the selected product within 7 days, 14 days, or 30 days.
- **Power Consumption Distribution** chart (city-based): shows the city-based cumulative amounts of power consumption of devices that belong to the selected product within 7 days, 14 days, or 30 days.

Note:

1. When you click **Export CSV** on the **Online Devices Distribution** tab page, you need to select a time segment to control the amount of exported data. If you choose China and need data for all cities, province-based data will be exported. If you choose the United States or Europe and need data for all cities, the data will be exported based on the country or region. If you only need the data for a Chinese province, the United States, or a European country, city-based data will be exported.
2. When you change the city, the device conditions data in the top banner area of the page will not change, but the charts will.