



Remotec
TECHNOLOGY LTD.
Company Overview
2022



Background



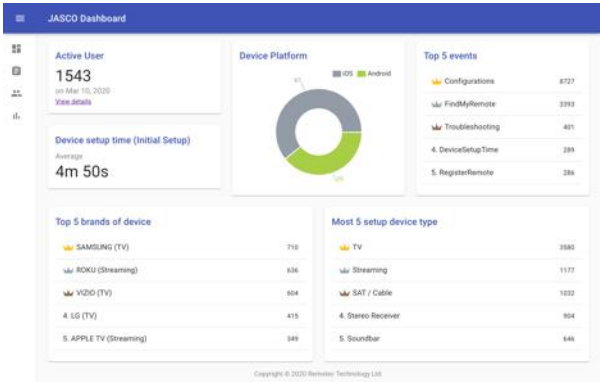
With the DNA of all technology leaders that originates in the 80's, Bondwell Computers is well known for being innovative and ahead of its time with CP/M DOS PC, joysticks, video phones, gadgets and remote controllers. Remotec has digitally transformed to deliver products in the Smart IoT and Home Control category 10 years ago.



Customers, Partners, Suppliers



Remotec Core Technologies



What We Can Do

With 30 years of experience in the business, we look to add to and increase value through an IoT platform for your company's roadmap



A flexible architecture with our IoT platform services



Standard reference design with many RF chipsets

Case Study: Using IR to Value-Add

Social Network Company and Infrared Control

Multiple social network companies with a worldwide user base have implemented IR functionality to complement devices such as OTT Box and AI speakers.

The cost-adder for adding IR is not a lot, but it offers a huge difference in value-add by enabling the control of legacy IR-controlled electronics, **a low-cost way to increase user engagement, but significantly increase perceived value of the products**



Industry Insights

AI-based voice assistants have become prominent in recent years. Setting up an AI speaker has been made more intuitive nowadays, but connecting it to the many Smart Home items like Nest, Ring, IFTTT, SmartThings, etc. is a nightmare.

But by including IR into the AI speaker or hardware product itself, allows an AI speaker to not just assist with a consumers day-to-day but to control the household at the same time

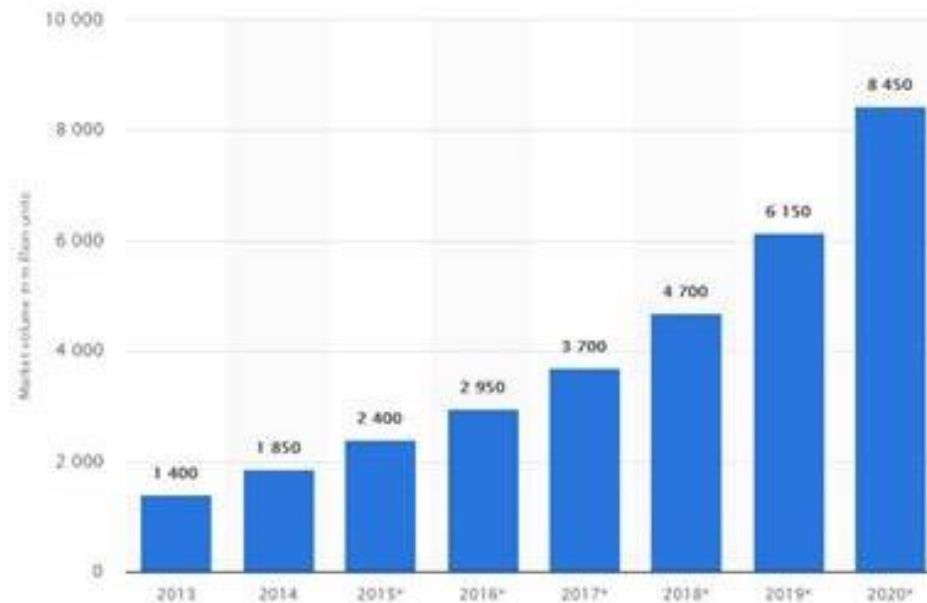


Bluetooth + IR + Voice

OTT box + TV will incorporate voice assistant or smarter remote controller

Handheld remotes now requires Bluetooth, IR and Voice to support seamless control of the multiple home entertainment electronics (TV, Projectors, AV Receivers, Sound bars)

Bluetooth low energy (BLE) enabled devices market volume 2020 (in million units)

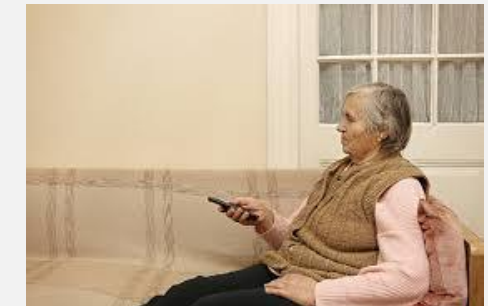


Confidential

Industry Insights

Remote controls use basic Human Computer Interaction (HCI) device that is place-based and/or handheld. An IR-based remote controller also offers long battery lifetime. This user experience cannot be replaced totally by smartphone and apps.

Smartphones, apps and AI speakers are great for younger families. Bottomline, there are still families that will still want to use a traditional remote controller.



Our Solutions

Bluetooth + IR Universal Remote controller

One Remote controller to control all

BLE and IR Universal Remote Controller

- Pair up Bluetooth connection with OTT / ATV Box for voice control (Android Voice assistance)
- Control OTT / ATV Box by both BLE and IR ; Universal remote function by infrared
- Learn TV IR code by EDID
- Download Audio/Video devices IR Codes from Remotec IR Database
- Remotec Mobile APP for easily matching & download suitable IR code



Work with Any OTT Box / Android
TV Box with Bluetooth 4.2 or similar

Our Solutions

BLE-to-IR URC

- Support 4 AV devices (TV, STB, STRM, AUDIO)
- Support Remote and Extender mode
- Support ATV BLE voice
- Support IR codes upgrade by cloud database
- Support IR Smart search function
- Support scene function in button A, B, C, D
- Able to retrieve user data and restore it to a new remote
- Interact with mobile / OTT APP for IR code matching
- Support OTA F/W upgrade
- Bluetooth Low Energy smart device
- Power source: AAA x 2pcs



SUPPORTS  **Bluetooth™** *InfraRED[®]*

BLE-to-IR OTT Remote controller MCU

- Full turnkey solution
- Bluetooth 4.2 Bluetooth low energy BLE
- Different chipset platform e.g. Realtek, Ti, Nordic, CSR, Telink, DC...
- Supports chipset or module (with QDID)
- Integrated with Remotec IR engine and save the cost
- Supports local dB or cloud database
- Support IR Smart search function
- Supports digital or analog microphone
- Support Over-The-Air Upgrade (OTA)

Advanced features:

- Support IR codes upgrade by cloud database
- Support APPs development or in form of SDK



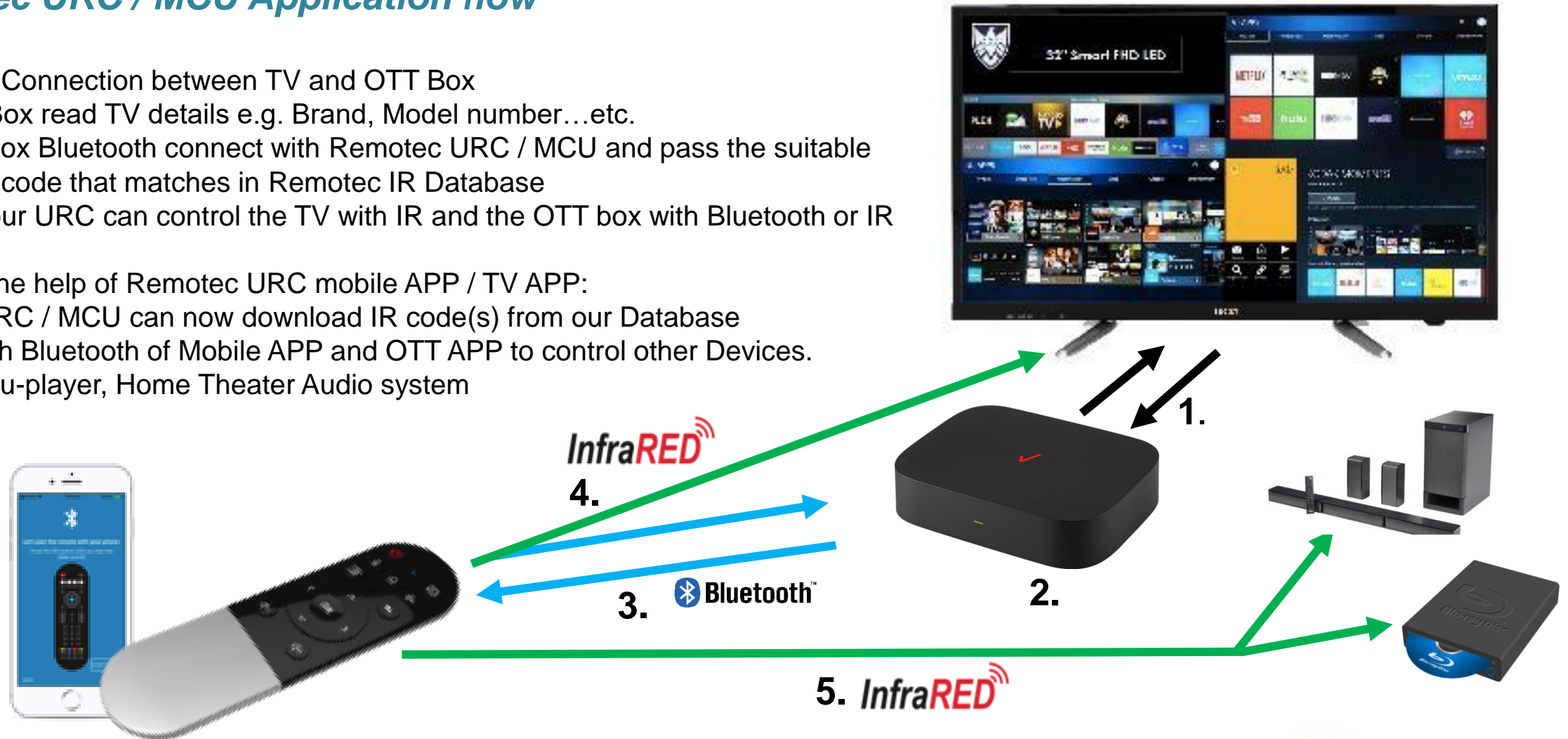
Application flow

Remotec URC / MCU Application flow

1. HDMI Connection between TV and OTT Box
2. OTT Box read TV details e.g. Brand, Model number...etc.
3. OTT box Bluetooth connect with Remotec URC / MCU and pass the suitable TV IR code that matches in Remotec IR Database
4. Now our URC can control the TV with IR and the OTT box with Bluetooth or IR

And with the help of Remotec URC mobile APP / TV APP:

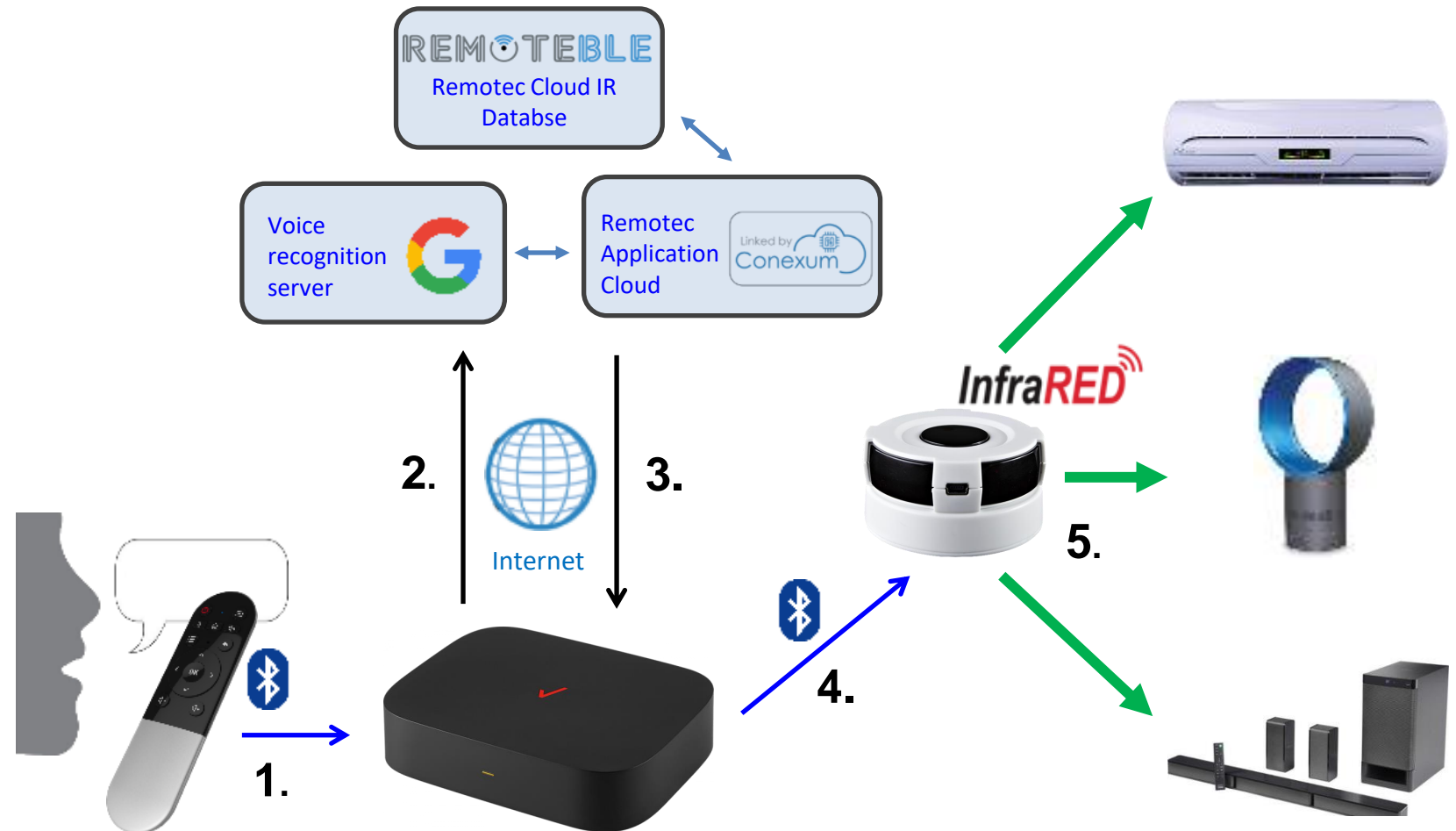
5. The URC / MCU can now download IR code(s) from our Database through Bluetooth of Mobile APP and OTT APP to control other Devices.
E.g. Blu-player, Home Theater Audio system



Voice control

Bluetooth to IR Voice control with Remotec BLE to IR Extender

1. Users make voice command to Remote Controller with microphone
2. OTT / ATV box received and pass the voice command to Google voice recognition service via internet connection
3. After Google identified The voice command. That command will pass to our Cloud servers to arrange and download suitable IR codes. It will then reply back to OTT / ATV Box
4. OTT Box will send the command to our BLE-to-IR Extender via Bluetooth
5. The IR extender will then emit Infrared signal to control home appliances. Not only TVs, we enable our device to control Air-Conditioners, Fans, Home entertainment system and more.



Our Solutions – BLE-to-IR Extender for Voice control

BLE-to-IR Extender

- Support and control all IR devices that covered by Remotec's IR Database, including TV, Sound bars, Blu-ray players, Air Conditioners and more.
- Support ATV BLE voice
- Built-in Temperature and Humidity Sensors
- Interact with mobile / OTT APP for IR code matching
- Support OTA F/W upgrade
- Bluetooth Low Energy smart device
- Power source: AAA x 2pcs



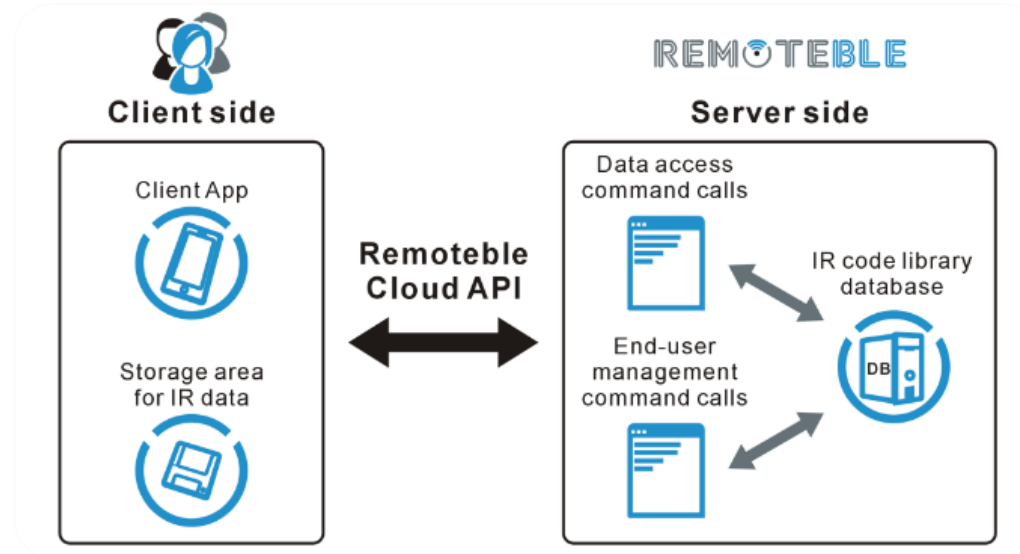
SUPPORTS  **Bluetooth™** *InfraRED* 

Key of our Solution - Cloud IR Database

RemoteBLE – the worldwide renowned IR database

TO make sure above solution working, a reliable IR database is needed

- Evergreen library with update maintenance unlike other vendors
- Major Regions Japan, Asia, US, Europe
- Cloud database and API runs on high availability Microsoft Azure cloud-infrastructure
- Industry API standard output supporting JSON
- Smart Search API enables better UX/UI integration
- User and credential management,
- Data access by region, brand, category & model
- Cover 90% brands and Infrared devices in the market



API Economy

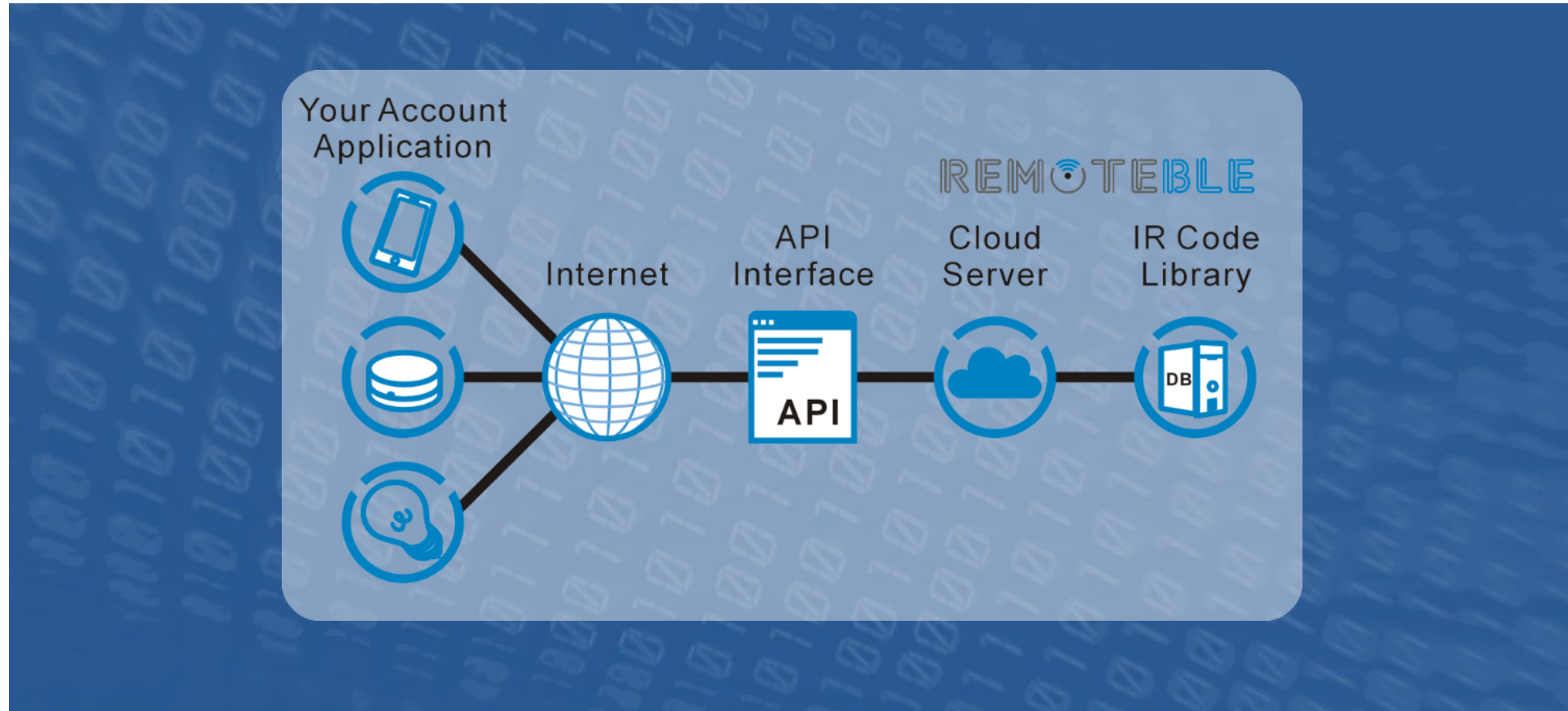
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Smartphone, apps and AI speaker are great for younger families. Bottomline, she will still want to use a remote and not an app.



Cloud API Structure

*Easy to implement API structure
Over 30 class of API command calls*



Universal IR Code Data Encoding

Proven IR firmware solution for many IR Blaster

Remotec has developed a data encoding method called Universal IR Descriptor (UIRD) to standardize IR codes bringing compatibility to various consumer electronics brands

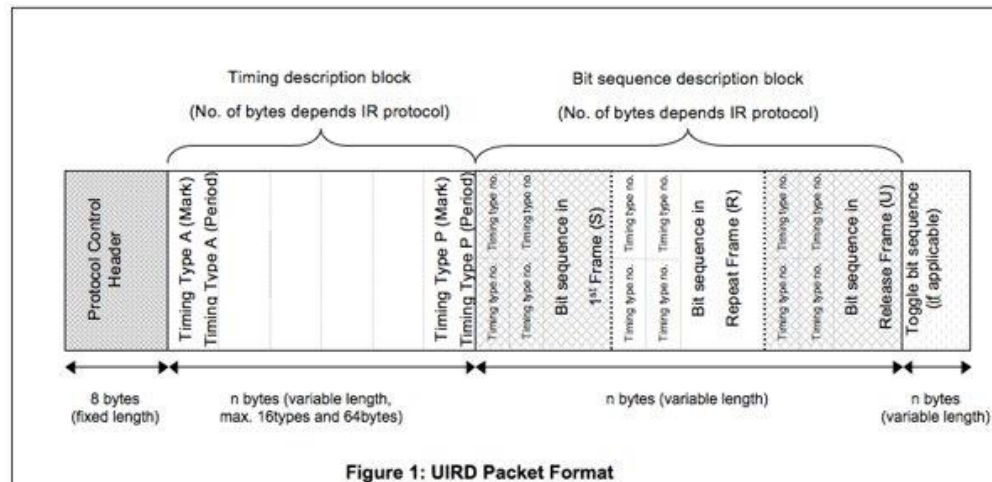
- Open API - RF4CE ZRC 2.0 published
- Currently standardizing with Bluetooth SIG with Alibaba's support – 1st Phase NWP Approved

Industry Standards

Remotec's UIRD standard is being adopted by many major brands and in Consumer Electronics for implementing and adding IR to their existing IoT solutions.

This standard will become important for ensuring IR products can go-to-market with the highest compatibility possible with the different brands of consumer electronics.

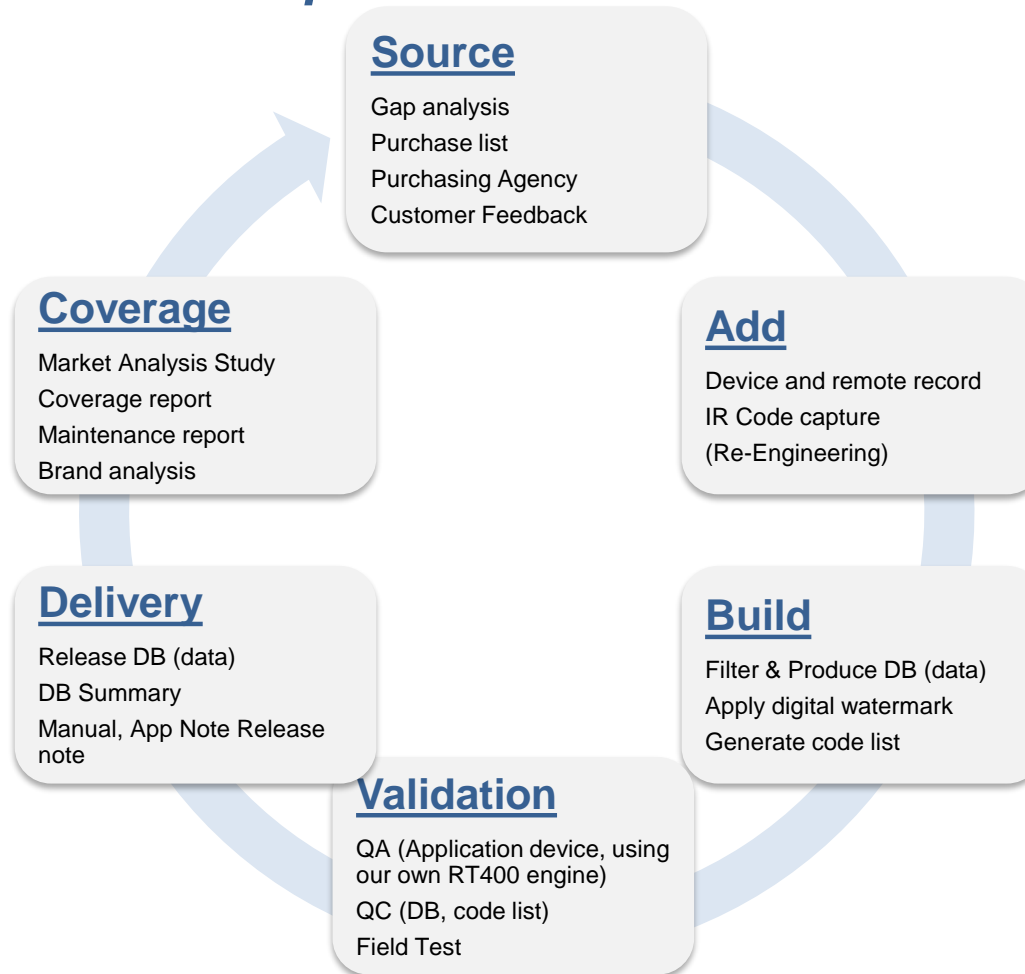
UIRD Packet Format



Evergreen IR Code Library Process

CSABVD is a purpose-built business process

To ensure high quality and frequent update of Infrared codes database. All IR codes are scientifically validated and caters to changing market needs and customer feedback



Quality assurance

IR codes are captured from original remote controls purchased or supplied by our strategic partners

This well-defined process on procurement, capturing, records and code data management enables **traceability** and completeness



OTT box / STB remote controller + IoT control Solutions

Follow up with our URC and MCU solution, Remotec have a full Roadmap to expand the value of OTT Box by integrating different devices and use-case into the OTT platform to achieve the Smart Home Trend in the world.

Portable Controllers

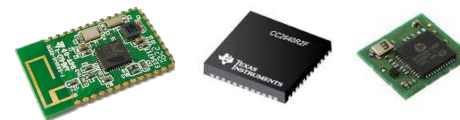


Comfort Control

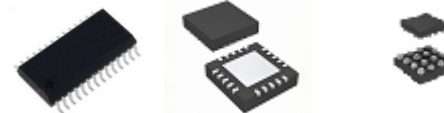


OTT RCU chip solution

RTB Integrated MCU Series



RT Series Chipsets



RT300 TSSOP 28 9.7mm x 6.4mm
RT400/410 QFN20 4mm x 4mm
RT500 WLP 16 2mm x 2mm



Remotec Worldwide

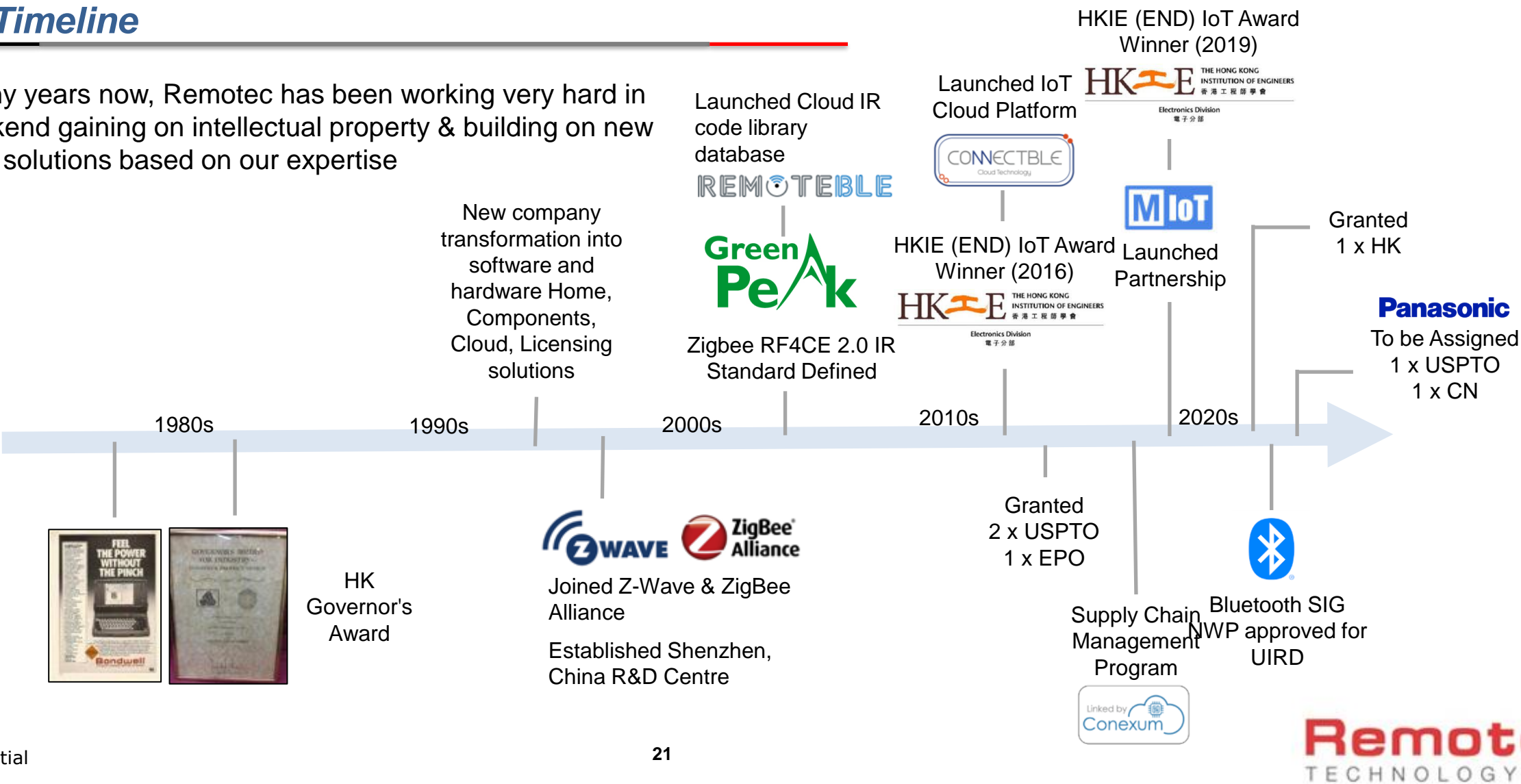


- Hong Kong - Headquarters
- China - Branch Office
- Japan - Sales Rep
- Taiwan - Sales Rep
- USA - Sales Rep

Company Timeline

The Timeline

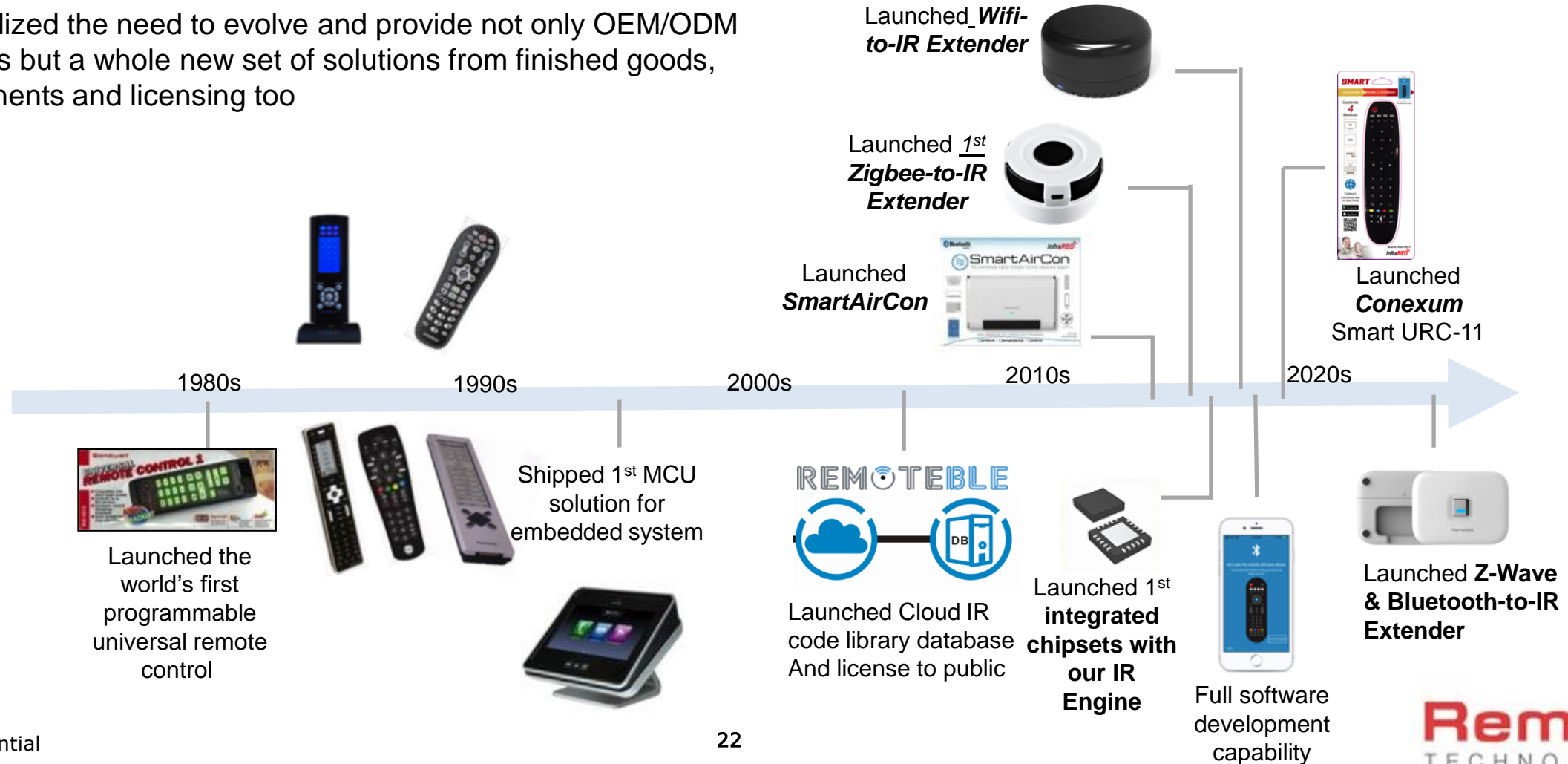
For many years now, Remotec has been working very hard in the backend gaining on intellectual property & building on new evolved solutions based on our expertise



Solutions Development Timeline

The Solutions Development Timeline

We realized the need to evolve and provide not only OEM/ODM services but a whole new set of solutions from finished goods, components and licensing too



About Us

Headquartered in **Hong Kong** with additional offices in **Shenzhen**, China, **Remotec Technology Ltd.** has been the global leader in providing high quality *Bluetooth, infrared and/or Z-wave* solutions, *OEM/ODM services* and quality *home automation* products. Previously known as Bondwell Computers, Remotec Technology Ltd. Has been working with original equipment manufacturers, being **ISO 9001:2000 certified**, and having the global leaders in technology as our clients for **over 30 years** and continues to strive to connect the world.

Remoteble is a division of **Remotec** which focuses on a best-of-class global *infrared code library* that supports many devices worldwide such as **universal remote controls, TVs, air conditioners, AV equipment, media centers**, etc.

Hong Kong: 9/F, Sing Shun Centre, No. 495 Castle Peak Road, Lai Chi Kok, Kowloon, Hong Kong

T: +852 2314 0330

F: +852 2314 1006

@: rtlsales@remotec.com.hk

China: No. 301-307, 3/F, Block 7, 1970 Science Park, Min Xing Industrial Zone, Min Kang Road, Min Zhi Streets, Long Hua District, Shenzhen

T: +86 755 8257 7300

F: +86 755 8278 6284

@: rtlsales@remotec.com.hk

Remotec
TECHNOLOGY LTD. www.remotec.com.hk

REMOTEBLE www.remoteble.com