Group Fitness with G.FIT

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Mike Rounding
Product Manager

History

- Fit1e
- FIT2

Get data from consoles to watches and leaderboard apps in group settings

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History

- Fit1e
- FIT2

Get data from consoles to watches and leaderboard apps in group settings

3rd Generation enabling wireless fitness equipment

G.FIT & Group Fitness Vision

Provide a turnkey dual-protocol ANT+ *certified* / *Bluetooth*® low energy (BLE) *qualified* solution for wireless fitness equipment and smart bike trainers

- 50+ devices in gyms
- Smart trainers and training apps

Overview

- History & vision
- Use Cases
  - Fitness Equipment
  - Smart Bike Trainers
- Wireless Standards
- Full Solution Overview
- Integration & Pairing Options
- Wrap-up

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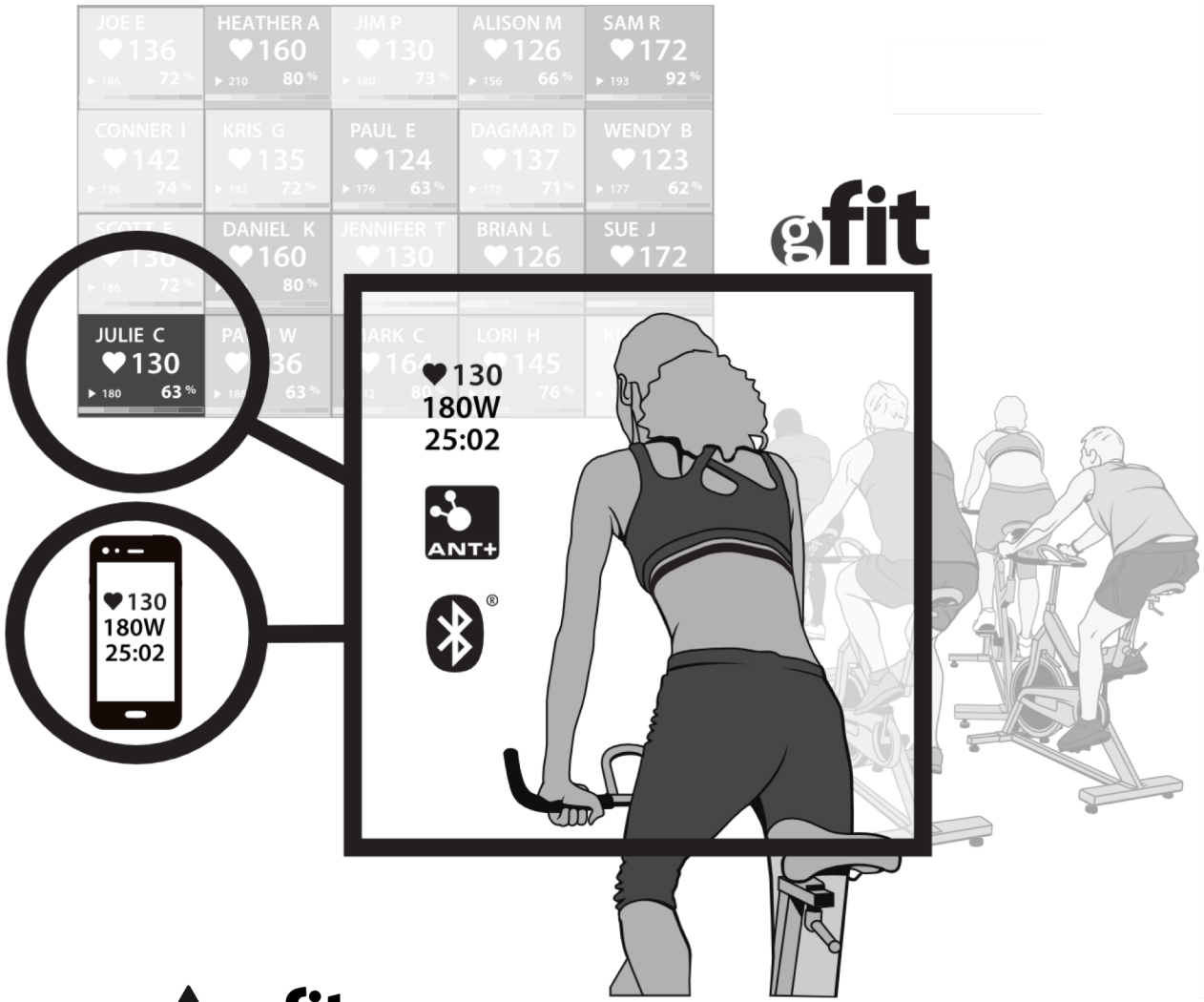
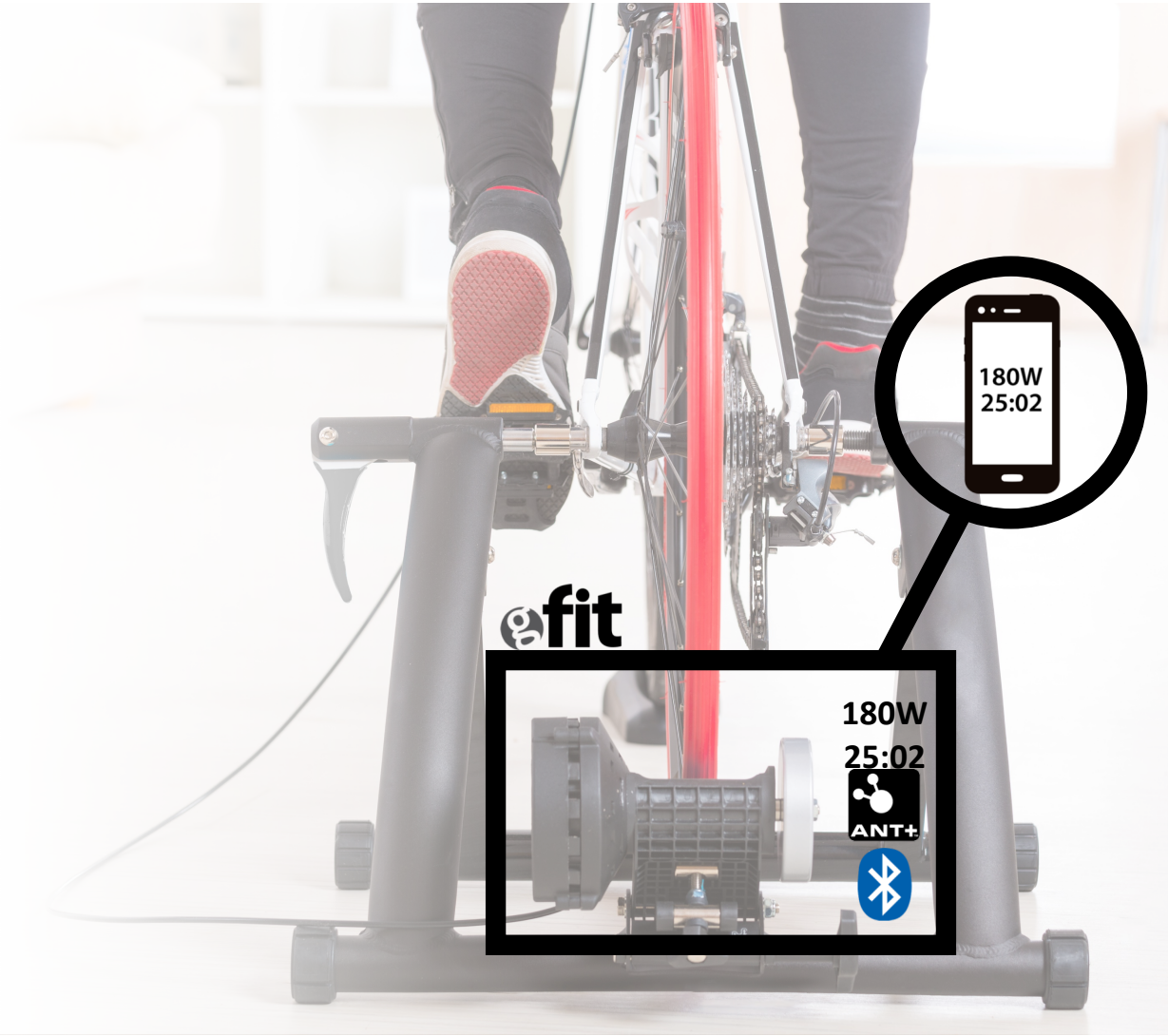
G.FIT Use Cases

Use Cases





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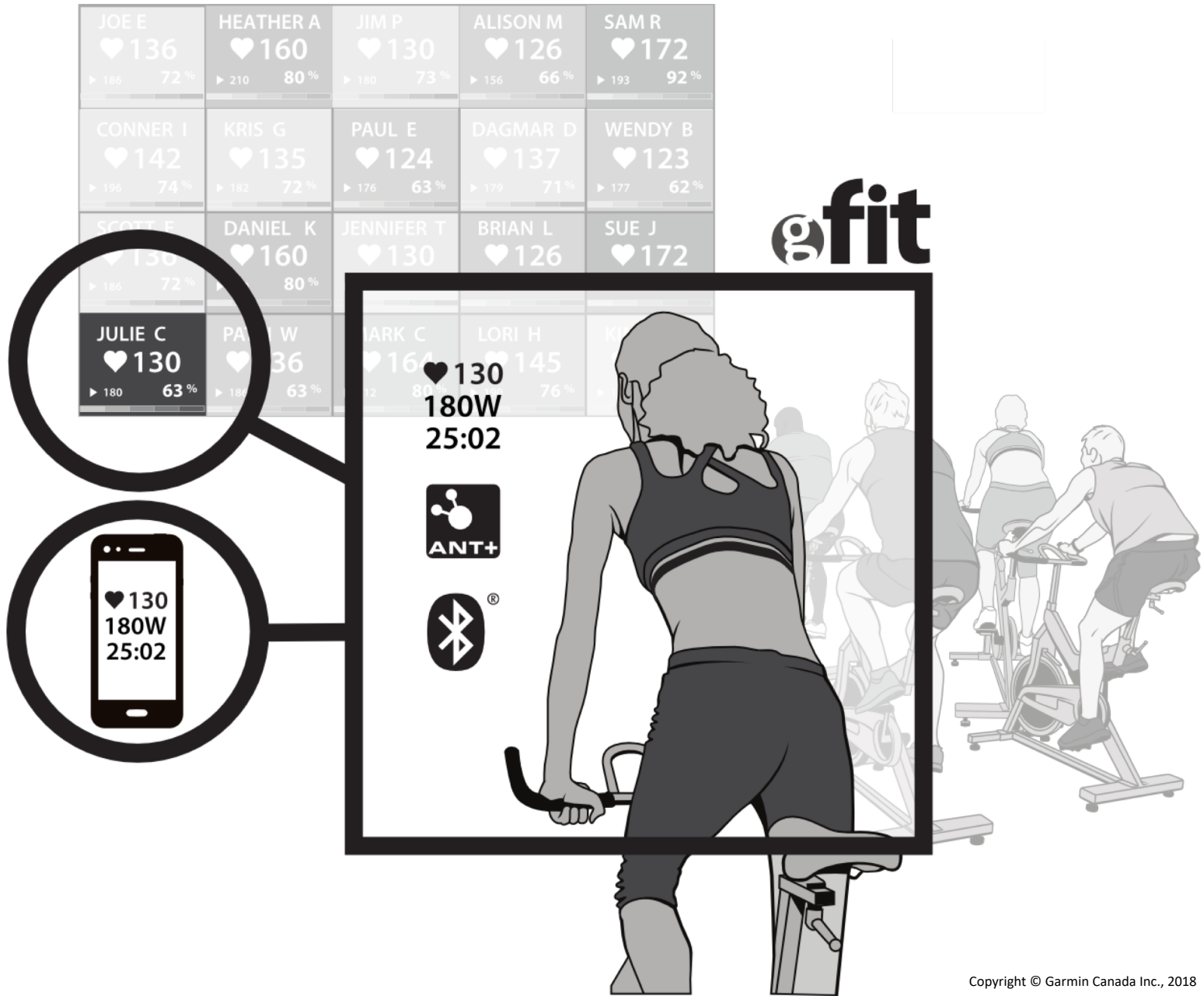
Fitness Use Case

- Fitness equipment in group settings

- ANT+ & Bluetooth® Support (broadcast-only)
  - ANT+ HR, FE-C
  - Bluetooth FTMS, HRS



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Trainer Use Case

- Dual protocol smart bike trainer applications

- ANT+ & Bluetooth® Support (with control)
  - ANT+ FE-C
  - Bluetooth FTMS
  - Dual-protocol HR for future applications

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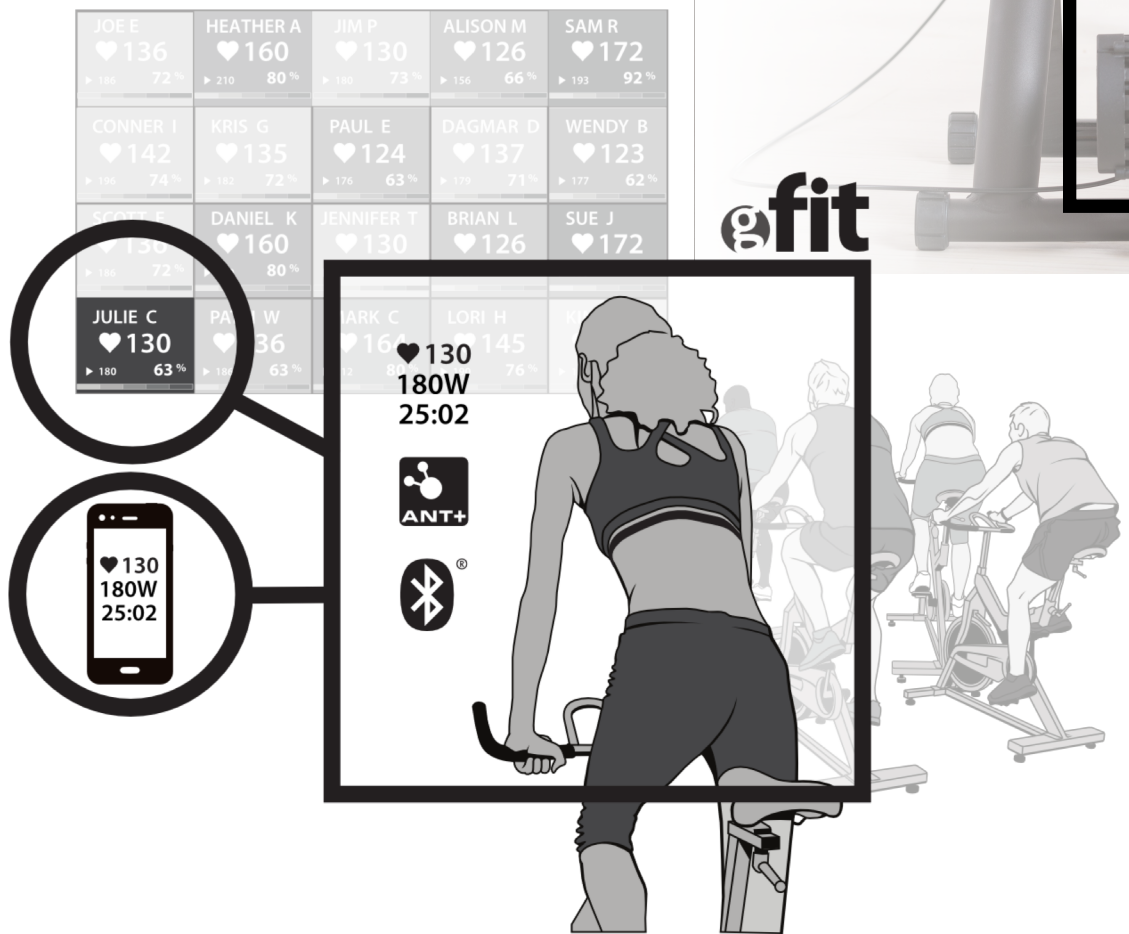
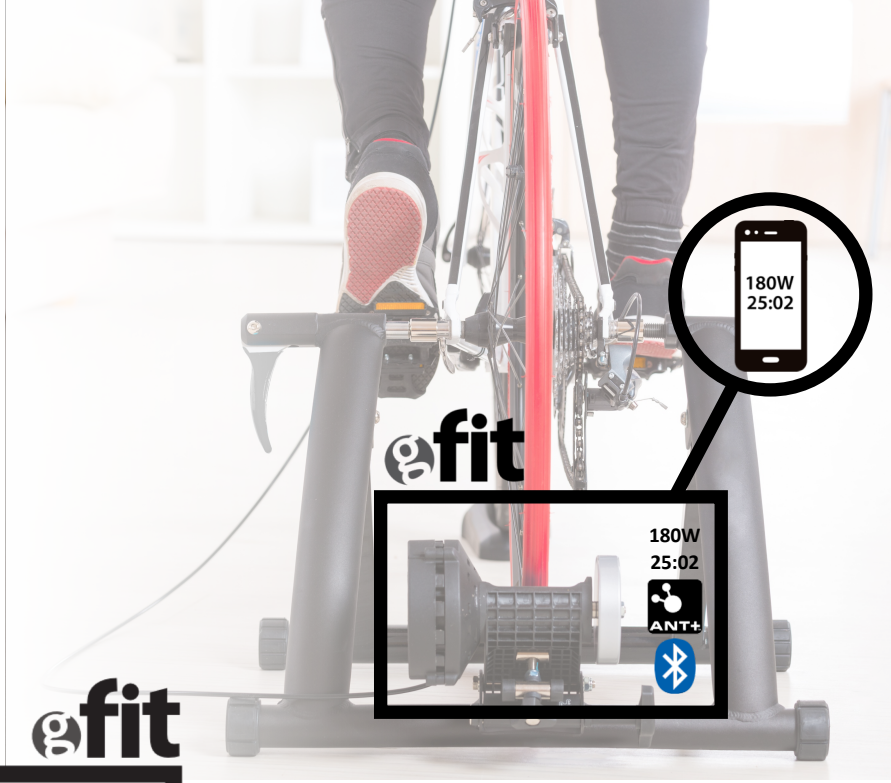
G.FIT Features

- High co-ex (50+ devices)
- Dual-protocol HR support
- Dual-protocol workout data broadcast
- Dual-protocol trainer control
- Leaderboard and personal device connections
- Future-proof via firmware updates
- ANT+ certified, Bluetooth® qualified
- Flexible Integrations





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Wireless Standards

G.FIT Standards

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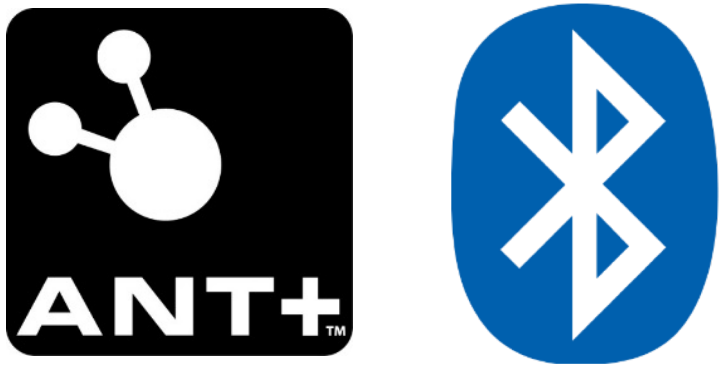
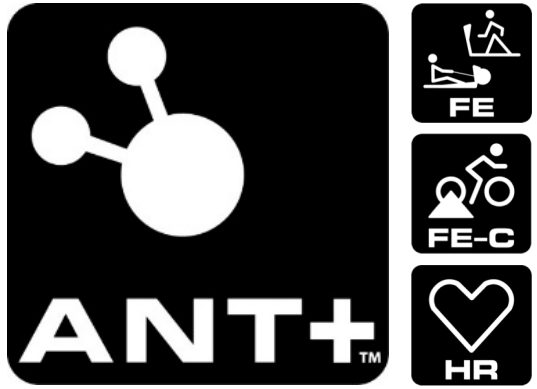


G.FIT Standards

Provide a turnkey dual-protocol ANT+ *certified* / *Bluetooth*® low energy (BLE) *qualified* solution for wireless fitness equipment and smart bike trainers

- 50+ devices in gyms
- Smart trainers and training apps

G.FIT Standards – certified & qualified



- FE broadcast for fitness equipment
- FE-C support for bike trainers
- HR pairing support

- FTMS broadcast for fitness equipment
- FTMS control point for bike trainers
- HR pairing and re-broadcast support

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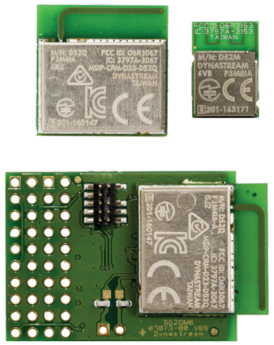
Solution Overview

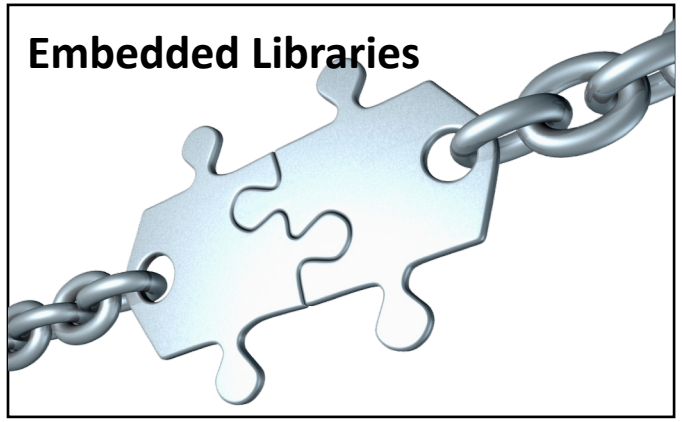
Solution Overview

Module Platform

- 2 form factors
- Development boards



Embedded Libraries

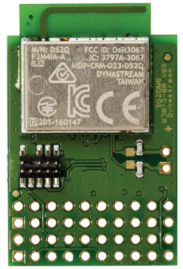


G.FIT SDK

PC-Based Console Simulator

G.FIT Firmware Updater Tools

FE Controller Sample / Simulator Code



Sample Mobile Device Code

connect IQ™
powered by Garmin
iOS devices

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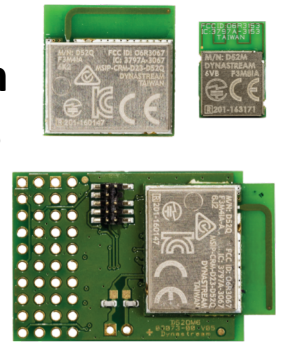
Solution Overview - Modules

Module Platform
- 2 form factors
- Development boards



- Pre-loaded G.FIT Network Processor
- Serial interface
- Secure Wireless & Serial FW Updates
- 2 form factors:
  - 20x20mm
  - 9.8x14.0mm
- Development platform (G.FIT FW loads available)

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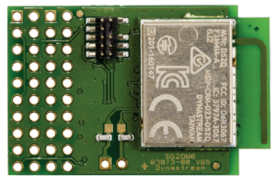
Solution Overview - Modules

Module Platform

- 2 form factors
- Development boards



Models

D52QGFM4IA
20x20x2.8mm module
Layout compatible with FIT2

D52MGFM8IA
14x9.8x2mm module
Small form-factor

D52QGFM4IA-A
20x20mm module
Layout compatible with FIT2
On-Board Accelerometer

D52QSKM6IA-A
Development Module
On-Board Accelerometer

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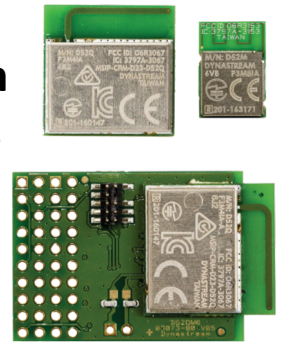
Solution Overview - Modules

Module Platform
- 2 form factors
- Development boards



- Global Applicability
- Regulatory testing
- Standards

Industry Canada

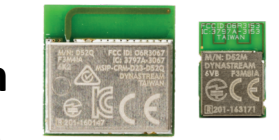
Industrie Canada

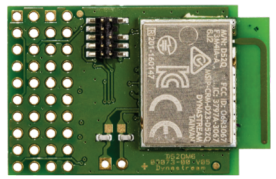
ANT+

Solution Overview – Embedded Libraries

Module Platform

- 2 form factors
- Development boards





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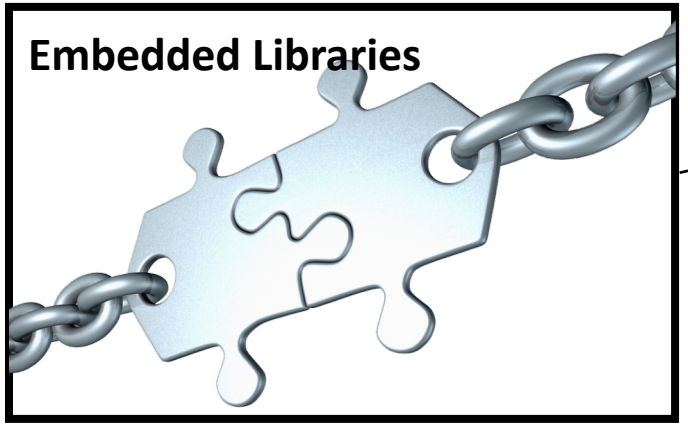

- G.FIT Libraries for Custom Firmware Development
- S332 ANT/BLE SoftDevice

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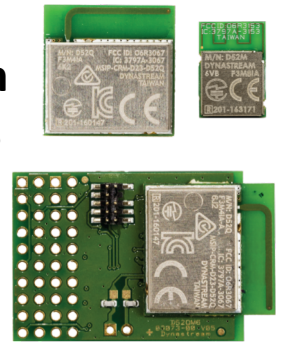
Solution Overview - Simulator

Module Platform
- 2 form factors
- Development boards



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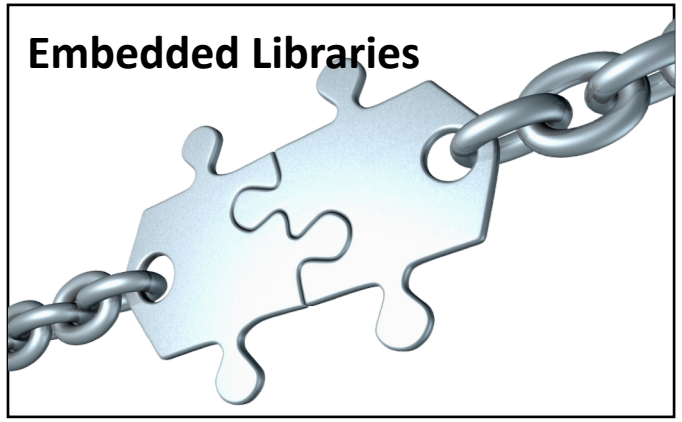

PC-Based Console Simulator

- Fitness Equipment Console Simulator
- Use with development boards to simulate console operation

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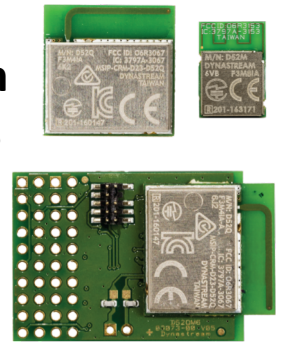
Solution Overview – Firmware Updater

Module Platform
- 2 form factors
- Development boards



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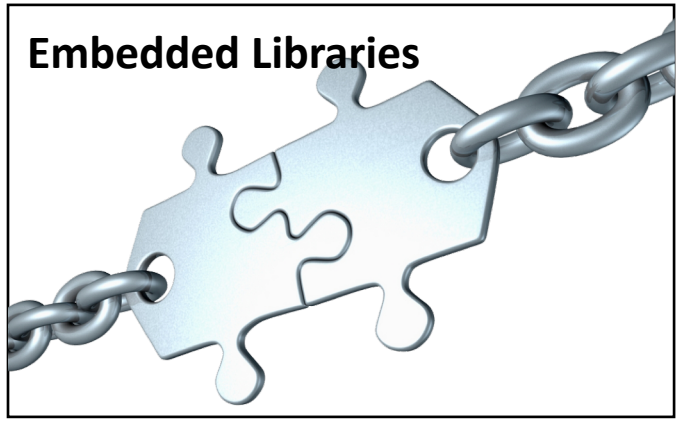

PC-Based Console Simulator

G.FIT Firmware Updater Tools

- Factory FW packages
- Dev board FW packages
- FW package generation tools

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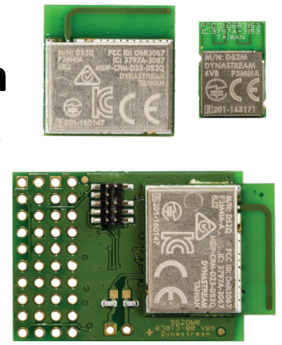
Solution Overview – Mobile Devices

Module Platform
- 2 form factors
- Development boards



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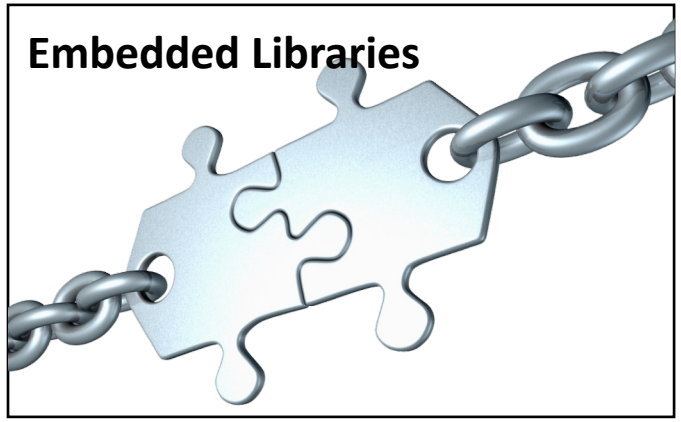

PC-Based Console Simulator

G.FIT Firmware Updater Tools

- Sample app code for iOS and Garmin Connect IQ
- Starting point for mobile / wearable experiences

Sample Mobile Device Code

connect IQ™ powered by Garmin

iOS devices

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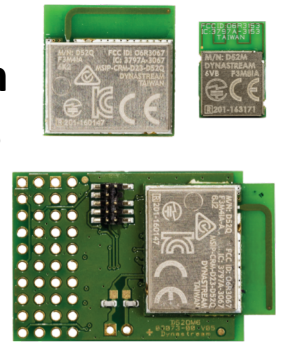
Solution Overview

- Configurable FE sim code for dev boards
- Generate FE data to talk to consoles

Module Platform

- 2 form factors
- Development boards



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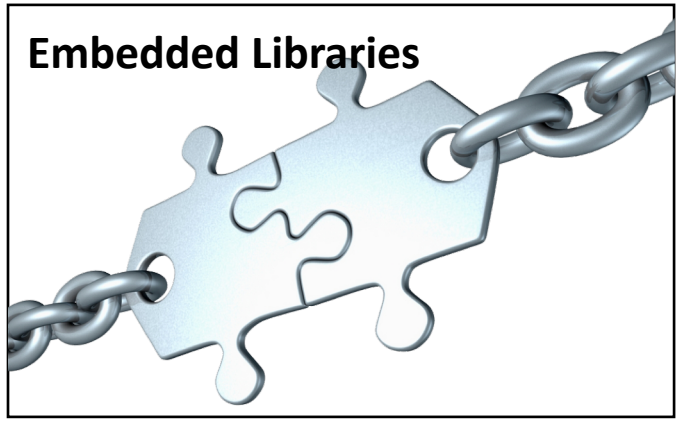

PC-Based Console Simulator

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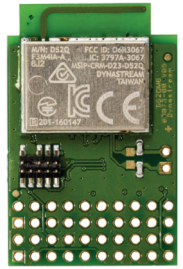

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connect IQ™
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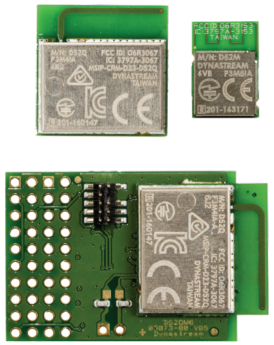
Solution Overview

Module Platform

- 2 form factors
- Development boards



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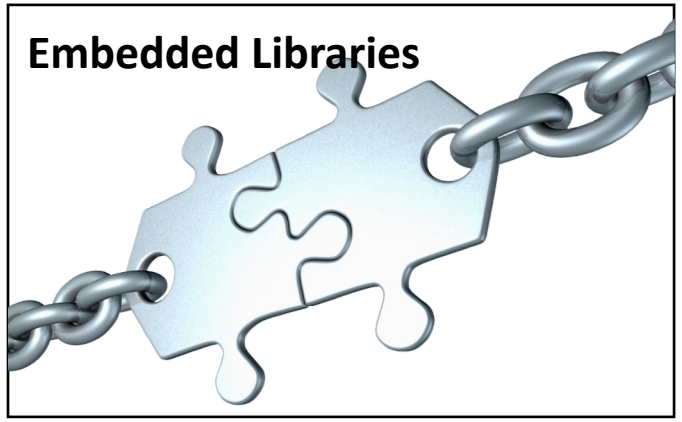

G.FIT SDK

PC-Based Console Simulator

G.FIT Firmware Updater Tools

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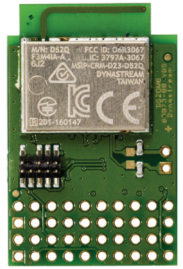

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connect IQ™
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Integration & Pairing Options

G.FIT Fitness Integration Options

- **Host Processor + G.FIT Network Processor**

- **Custom G.FIT SoC with G.FIT Network Functions**

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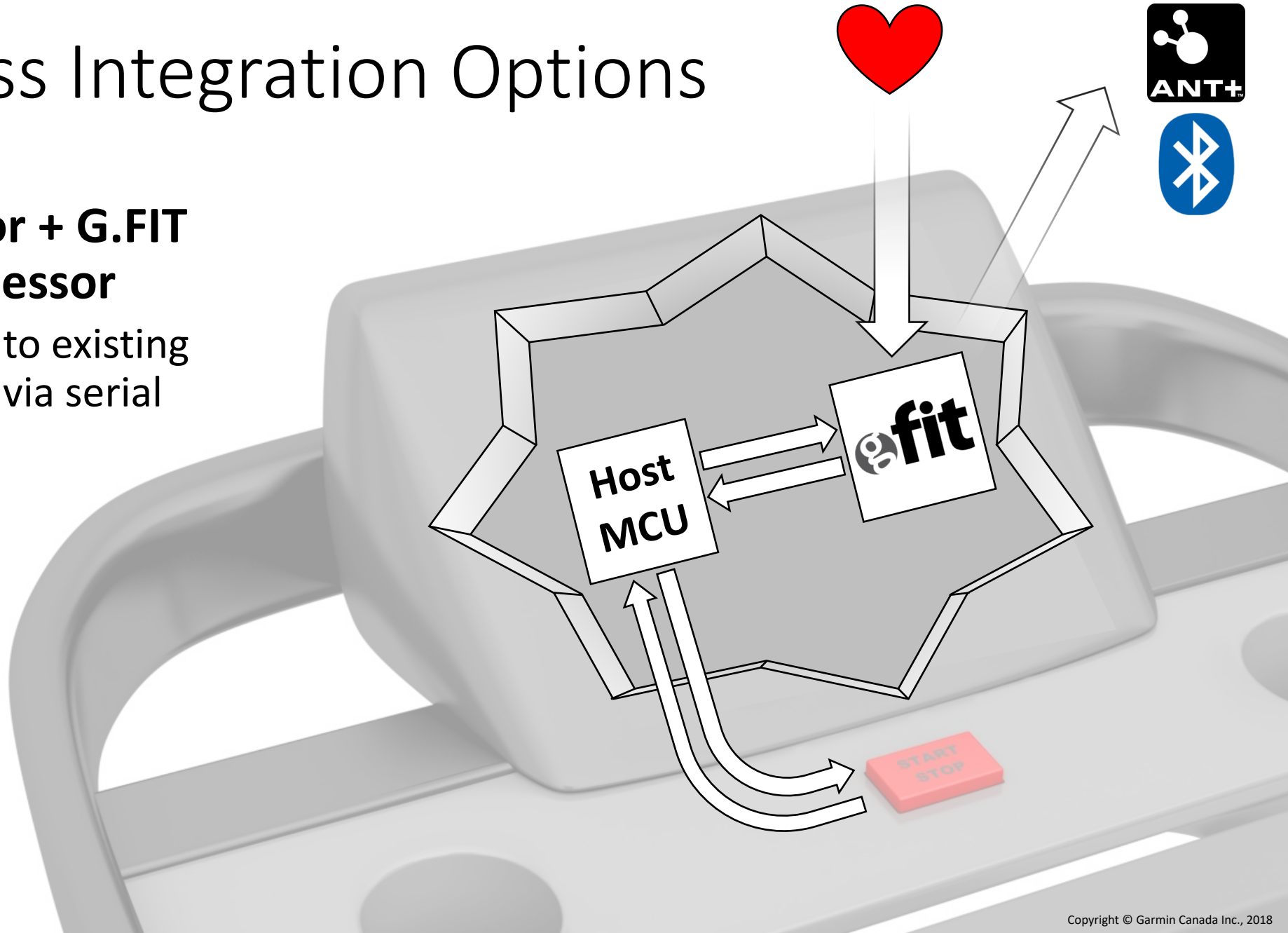
G.FIT Fitness Integration Options

- **Host Processor + G.FIT Network Processor**
  - Drop in, talk to existing architecture via serial interface



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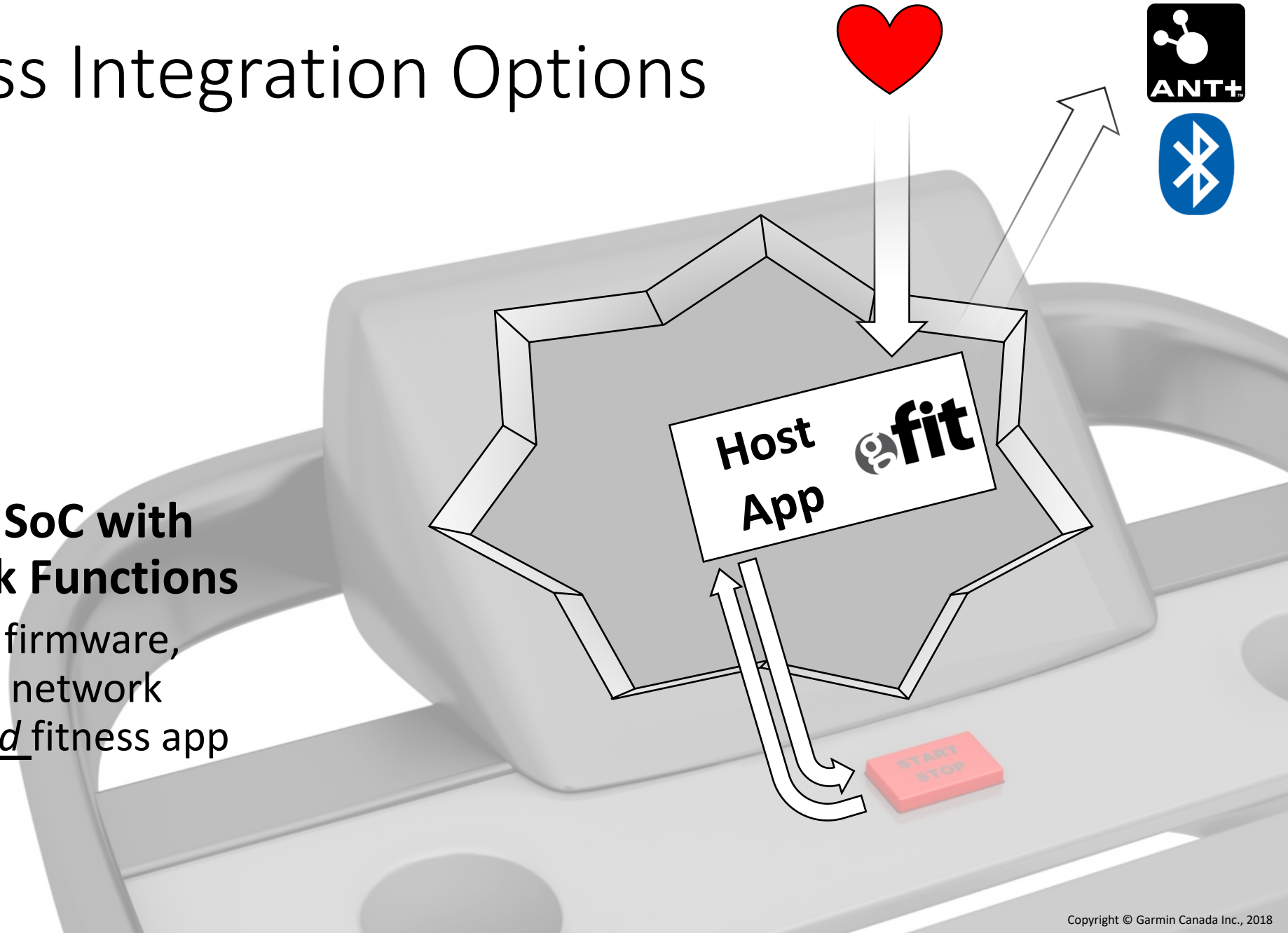
G.FIT Fitness Integration Options



- **Custom G.FIT SoC with G.FIT Network Functions**
  - Create G.FIT firmware, use G.FIT for network functions *and* fitness app

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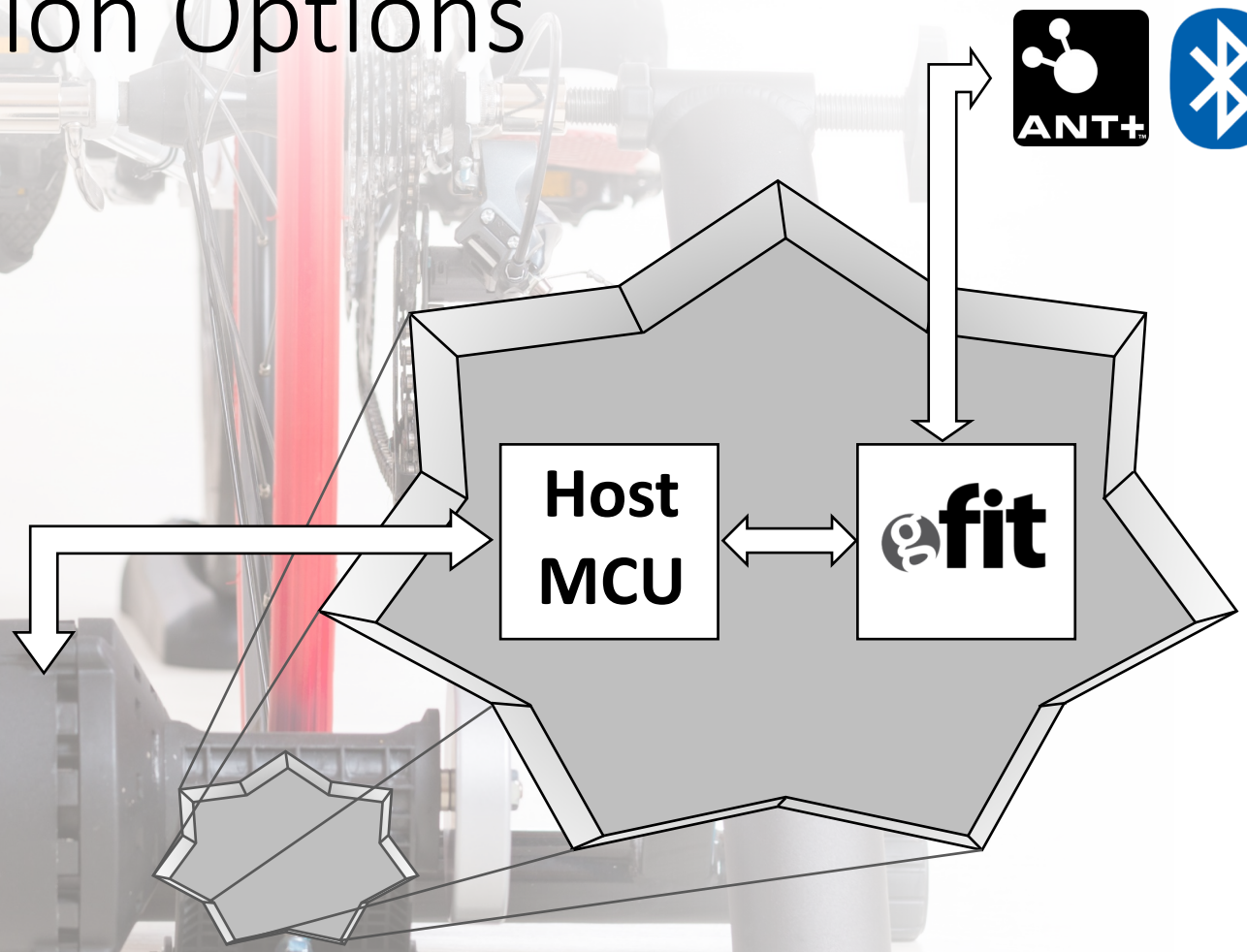
G.FIT Trainer Integration Options

- **Host Processor + G.FIT Network Processor**
  - Drop in, talk to existing architecture serially



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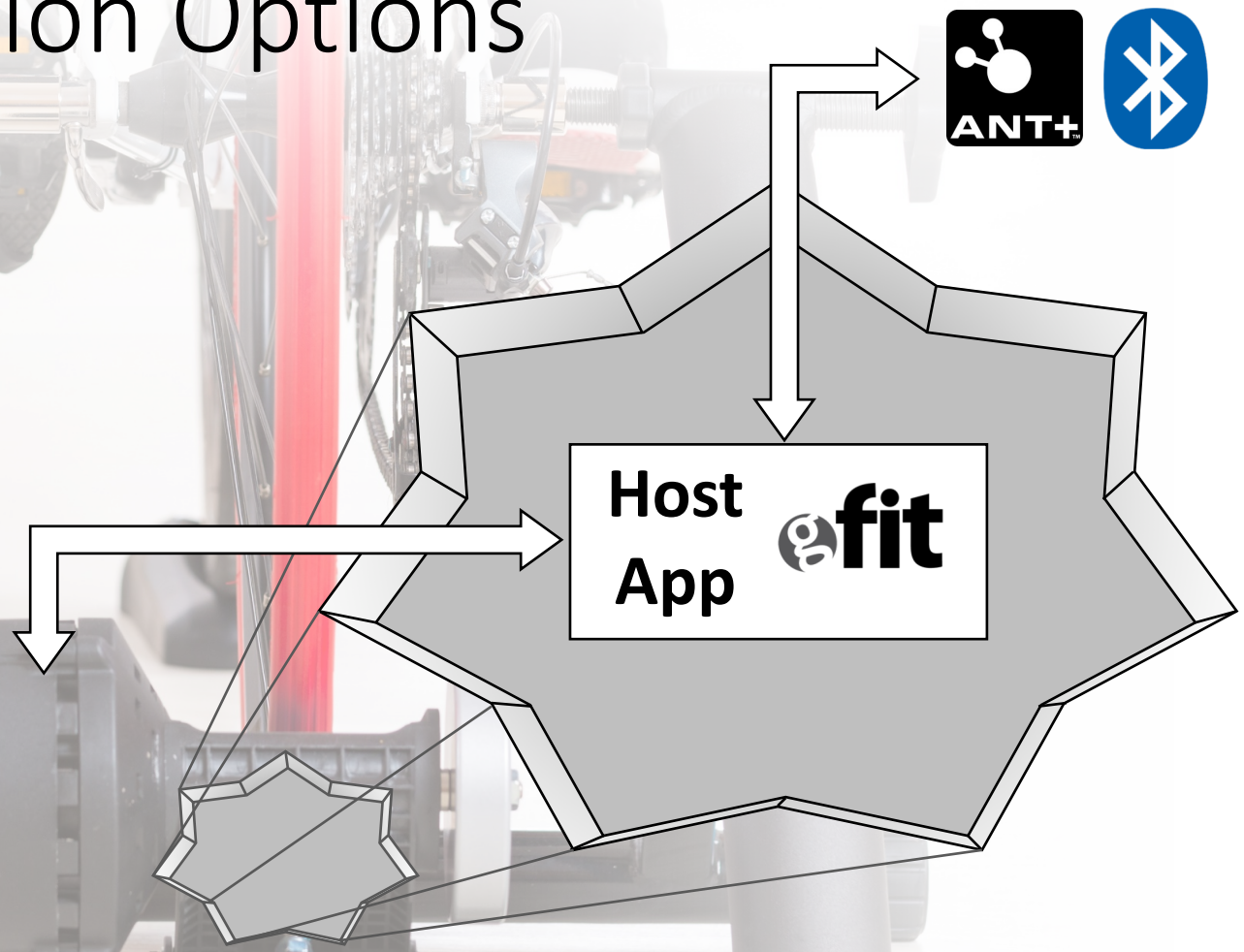
G.FIT Trainer Integration Options



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  - Create G.FIT firmware, use G.FIT for network functions *and* trainer app

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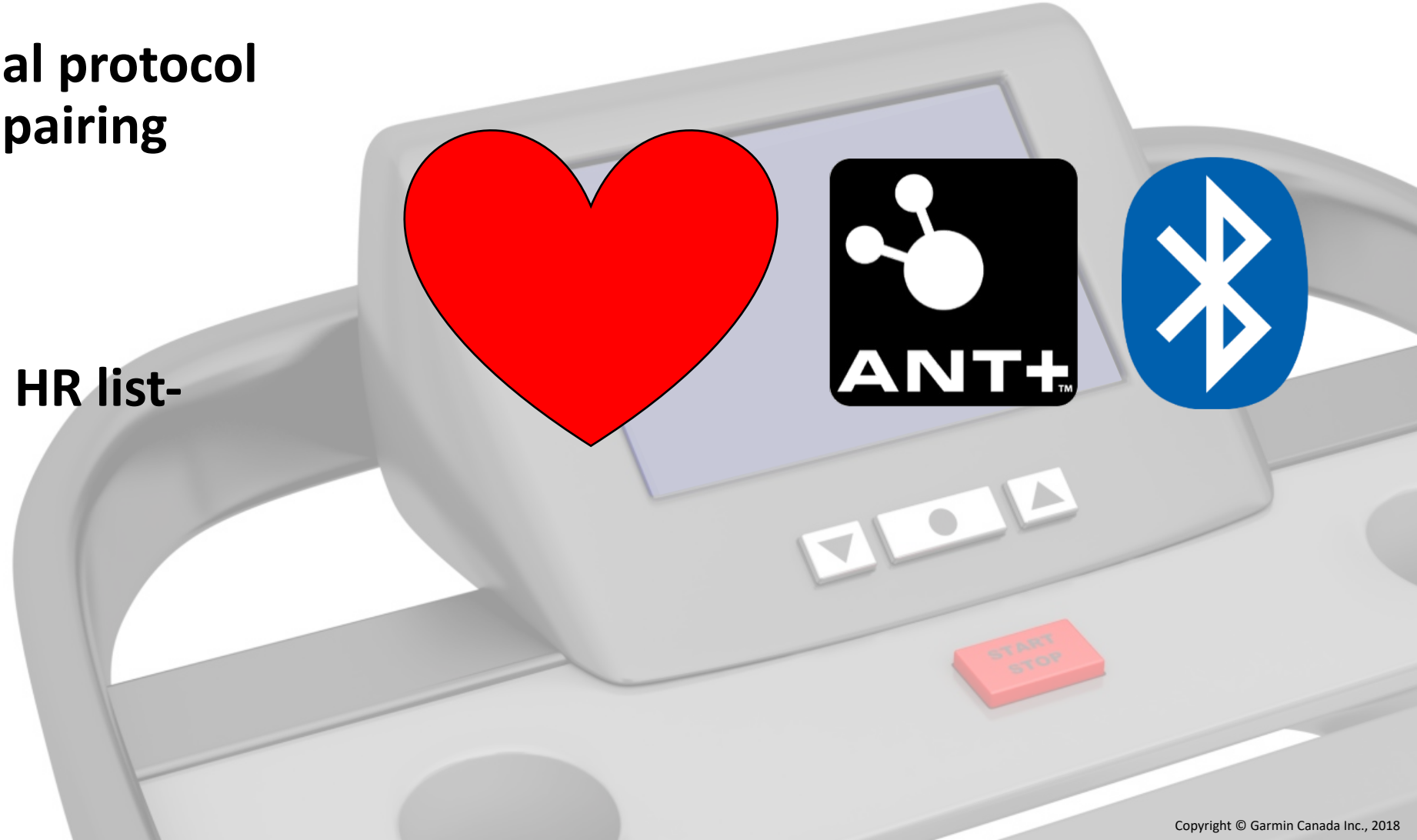
G.FIT HR Pairing - Proximity

- **Automatic dual protocol HR proximity pairing**

- **Dual protocol HR list-based pairing**



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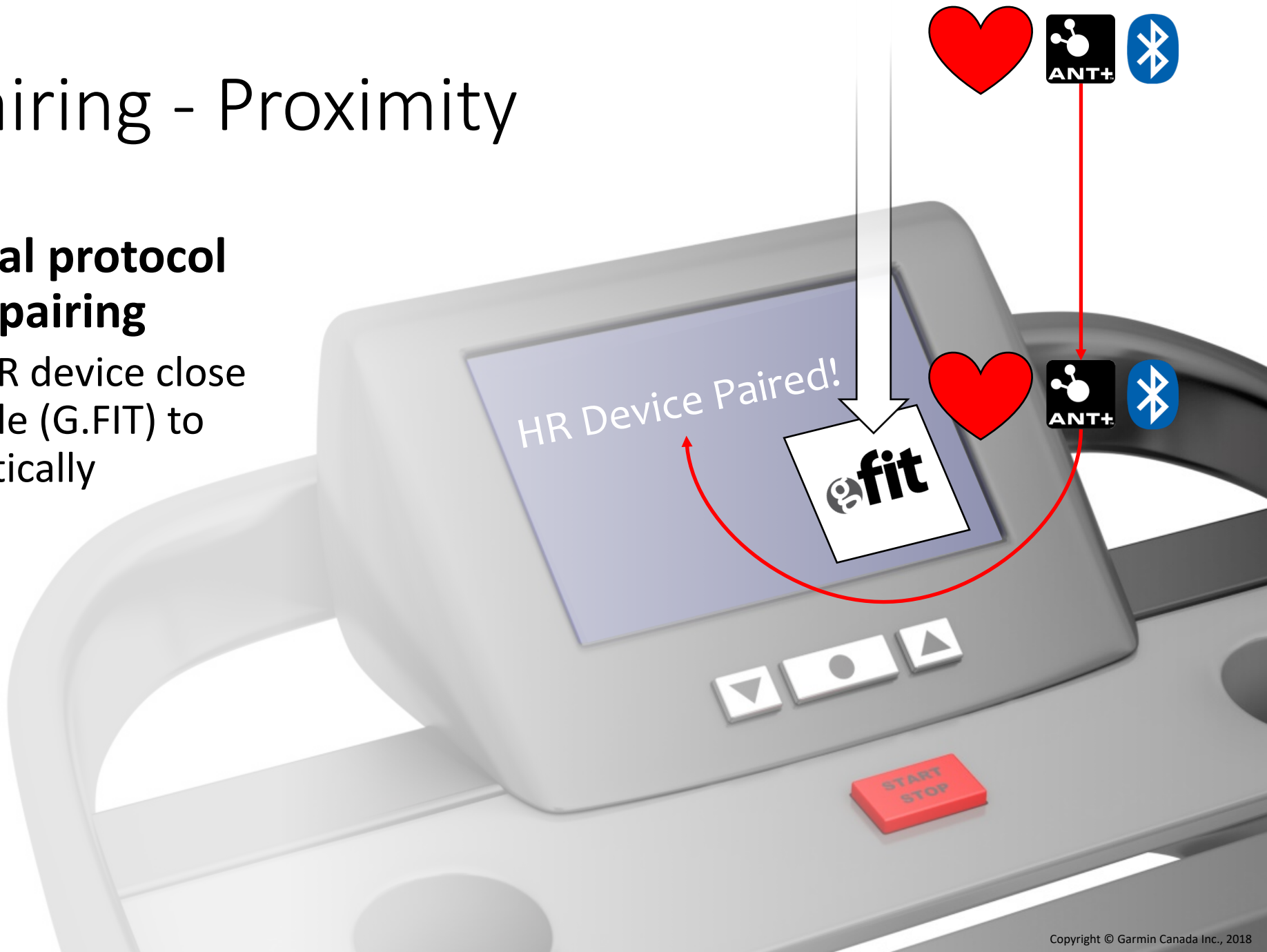
G.FIT HR Pairing - Proximity

- **Automatic dual protocol HR proximity pairing**
  - Bring your HR device close to the console (G.FIT) to pair automatically



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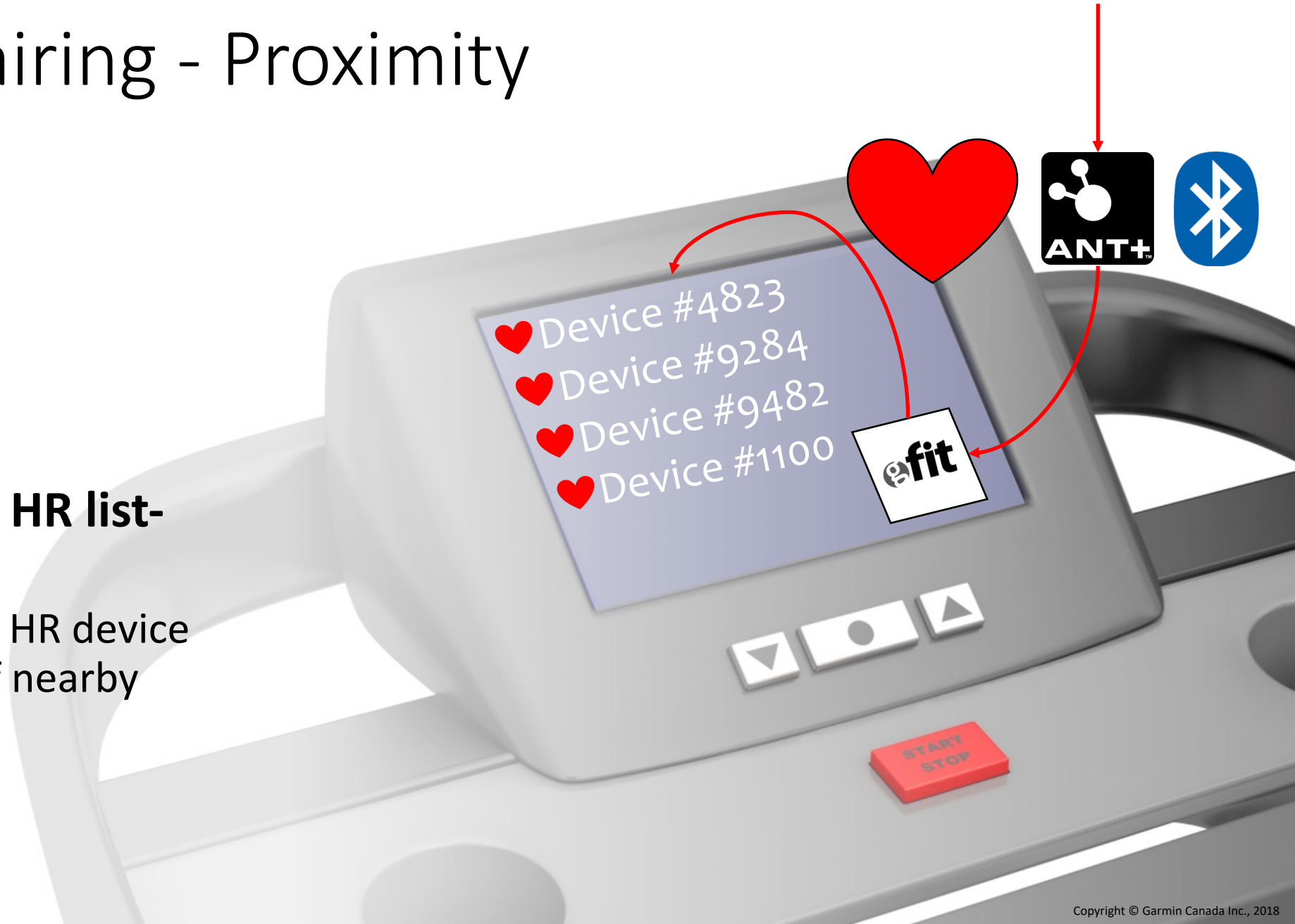
G.FIT HR Pairing - Proximity

- **Dual protocol HR list-based pairing**
  - Choose your HR device from a list of nearby sensors



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Wrap-up

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Recap

- History & vision
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Thank You!

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