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# Do's and Don'ts in ULP Personal Area Network Specification


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# System Do's

- Assured communication link
- Simple User Interface
- Consumer price point targets
- Interoperability
- Low Battery Consumption

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# System Do's: **Assured Communication Link**

- Scalable association/pairing options
- Broadcast low cost sensors in fitness
- Authenticated secure connections for treatment

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# System Do's: **Simple User Interface**

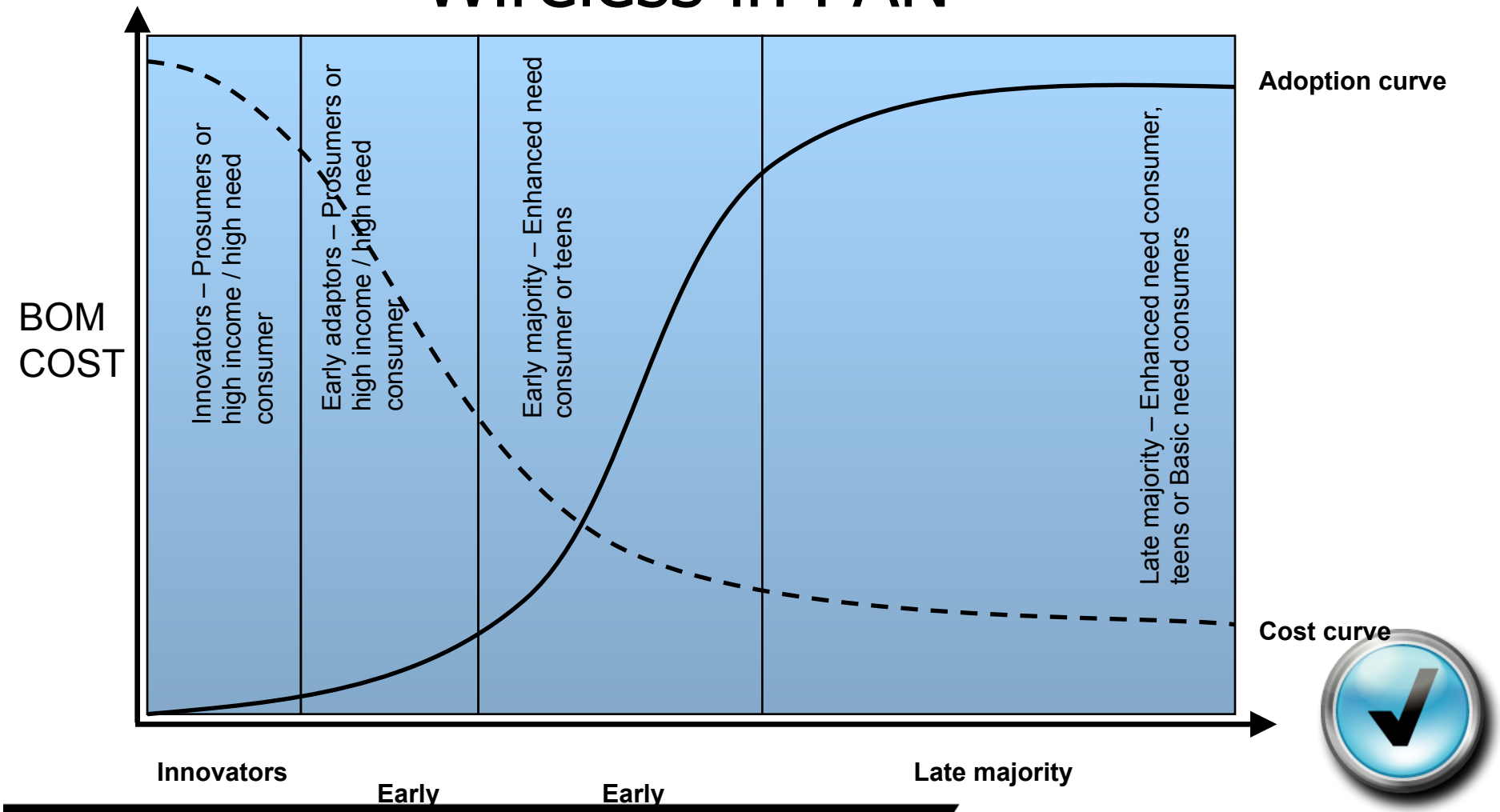
- Limit user interface
  - Automatic operation
  - Extended Battery Life
  - Multiple use case operation

# System Do's: **Consumer Price Point Targets**

- Specify price aggressiveness
  - BOM simplicity
  - Test and certification targets at the minimum
- Don't Limit options
  - Allow for multiple technology platform usage

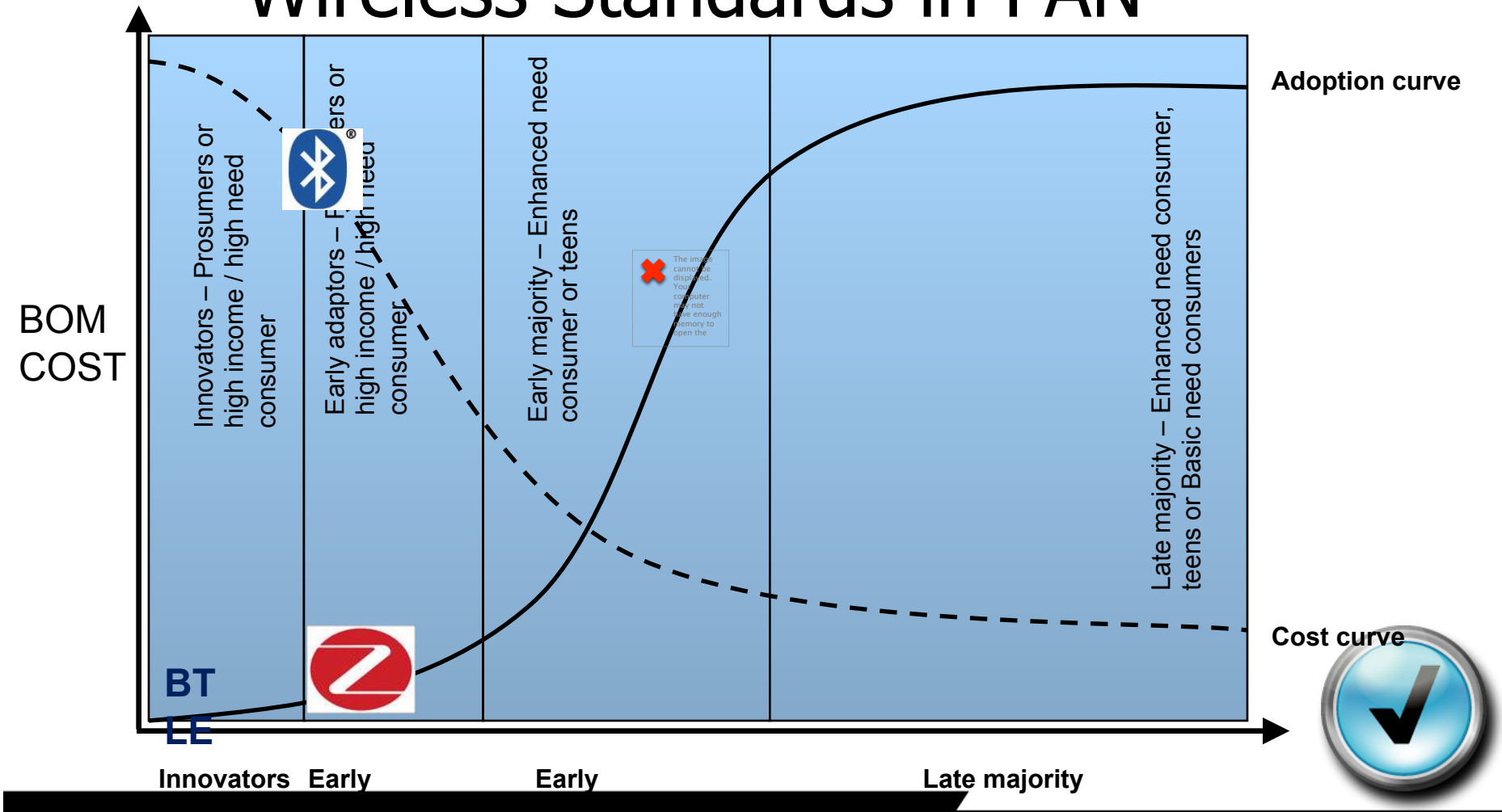
# System Do's: **Consumer price point targets**

## Wireless in PAN



# System Do's: **Consumer price point targets**

## Wireless Standards in PAN

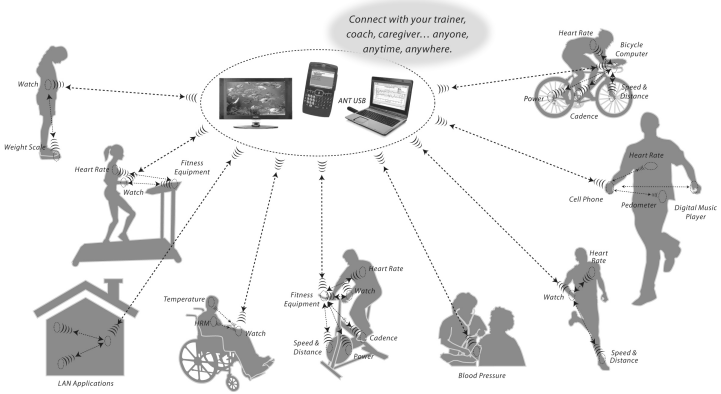


# System Do's: **Low Battery Consumption**

- Simple UI
- Consumer replaceable batteries (CR2032 coin cell)
- Keep in mind at every decision step

# System Do's: **Interoperability**

- 100% is the minimum
- Specify interfaces as simply as possible
- Target hardware for as much of the interoperability as possible



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# System Don'ts

- Data Complexity
- Security over complexity
- Point to Point Tunnel Vision
- Blind interoperabilty assurances

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# System Don'ts: **Data Complexity**

- Wired system historical usage cannot be sustained in a battery operated system
- Sensor communication cannot sustain Date, Time, Serial Number Rev etc info transfer
- Allowing manufacture specific file structures

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# System Don'ts: **Security Over-complexity**

- Specify acceptable assurances of connection
  - Over doing connection security costs money and battery power
  - Unneeded encryption is very expensive
- Allow a variety of pairing options
  - Broadcast for fitness
  - Authentication for BG, BP etc
  - Periodic for activity and HR

# System Don'ts: **Point to Point Tunnel Vision**

- Remember that any one device is only a piece of the system
  - Scalability will drive volume implementations
- Data correlation makes "sense" of the data

# System Don'ts: **Blind Interoperability Assurances**

- Blind interoperabilty assurances
  - Protocol design must start as interoperable
  - Hardware stack implementation is the best assurance of base interoperability
  - All SW stacks are not the same
  - Demand well defined profiles

# ULP – Advantage ANT