

Situations and Choices

JOSEPH TURNER
FOUNDER
MISERWARE, INC

IMAGINE...



Why worry about
SOFTWARE
power management?

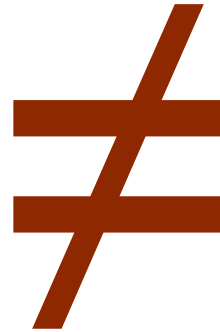
NEW CHALLENGES



NEW CHALLENGES



NEW CHALLENGES



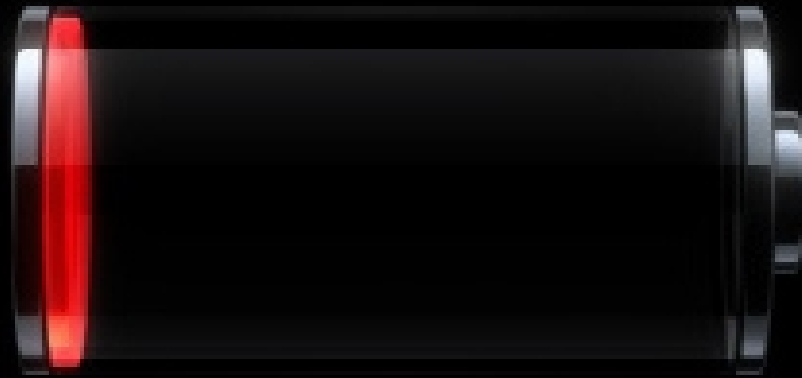
NEW OPPORTUNITIES



NEW OPPORTUNITIES



NEW OPPORTUNITIES



Since we can't use our

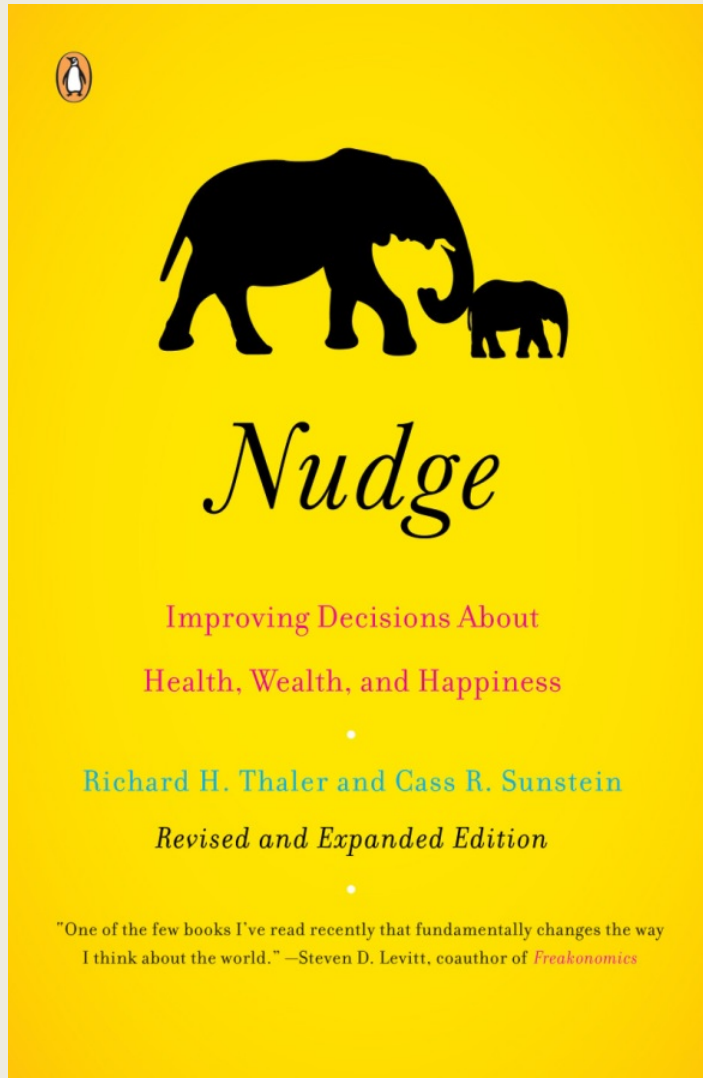
existing techniques
what we need is a

NEW

for power management.

FRAMEWORK

Choice architecture



Structure choices
so that people
make the **best**
decisions *relative*
to their own
interests.

Situational awareness



“Knowing what is going on so you can figure out what to do.”

— E.C. Adam

Example: FatBatt

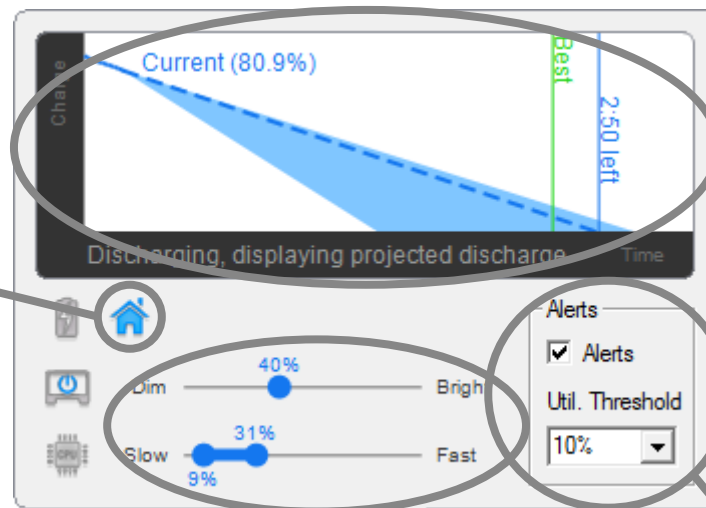


Created in 2011, FatBatt was our first foray into mobile (laptop) devices.

It incorporates both situational awareness and choice architecture.

FATBATT CHOICE ARCHITECTURE

Designed for desktop systems (as opposed to mobile systems) that can provide two or more actions and power management choice architecture.



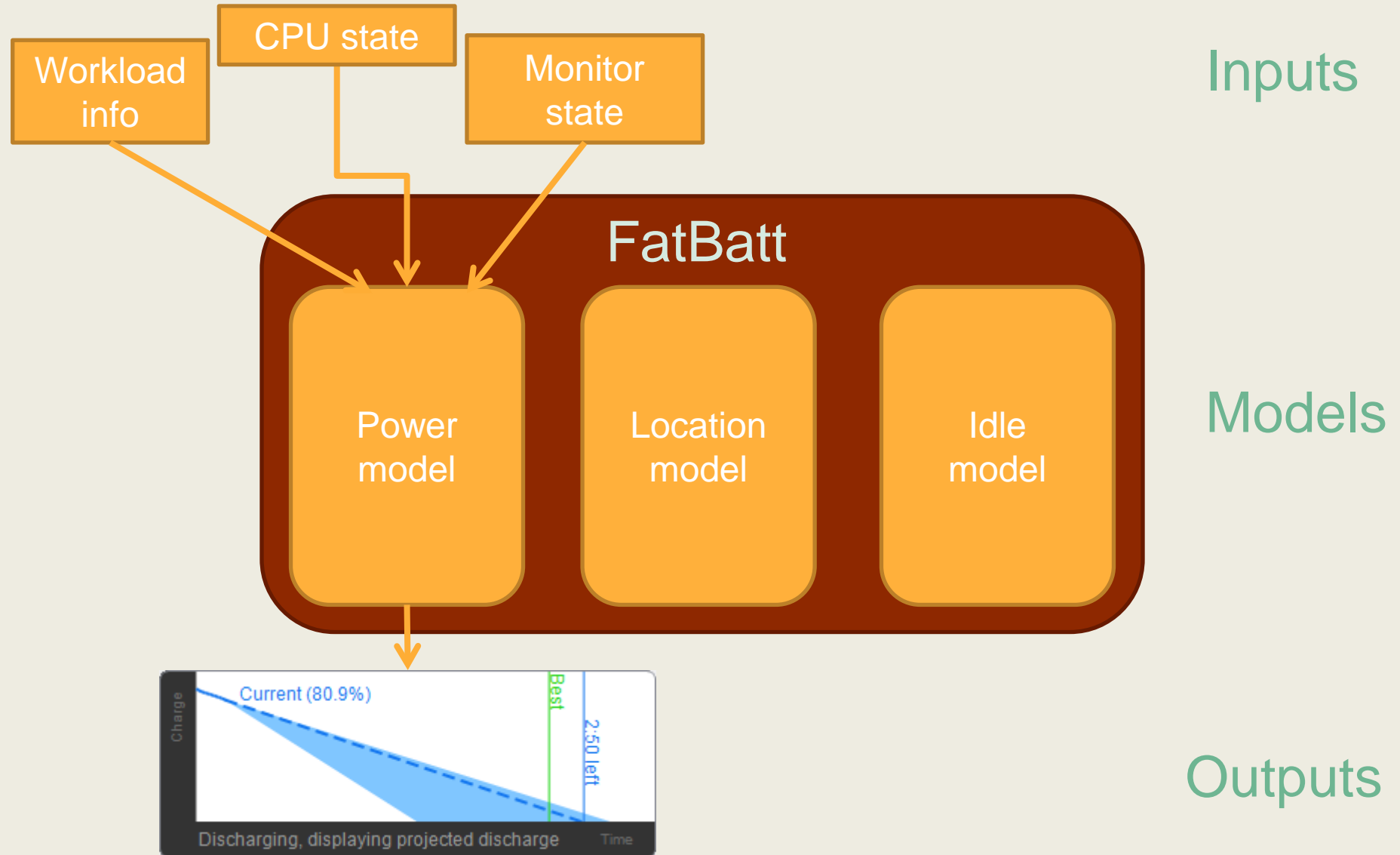
Improved mappings

Useful defaults

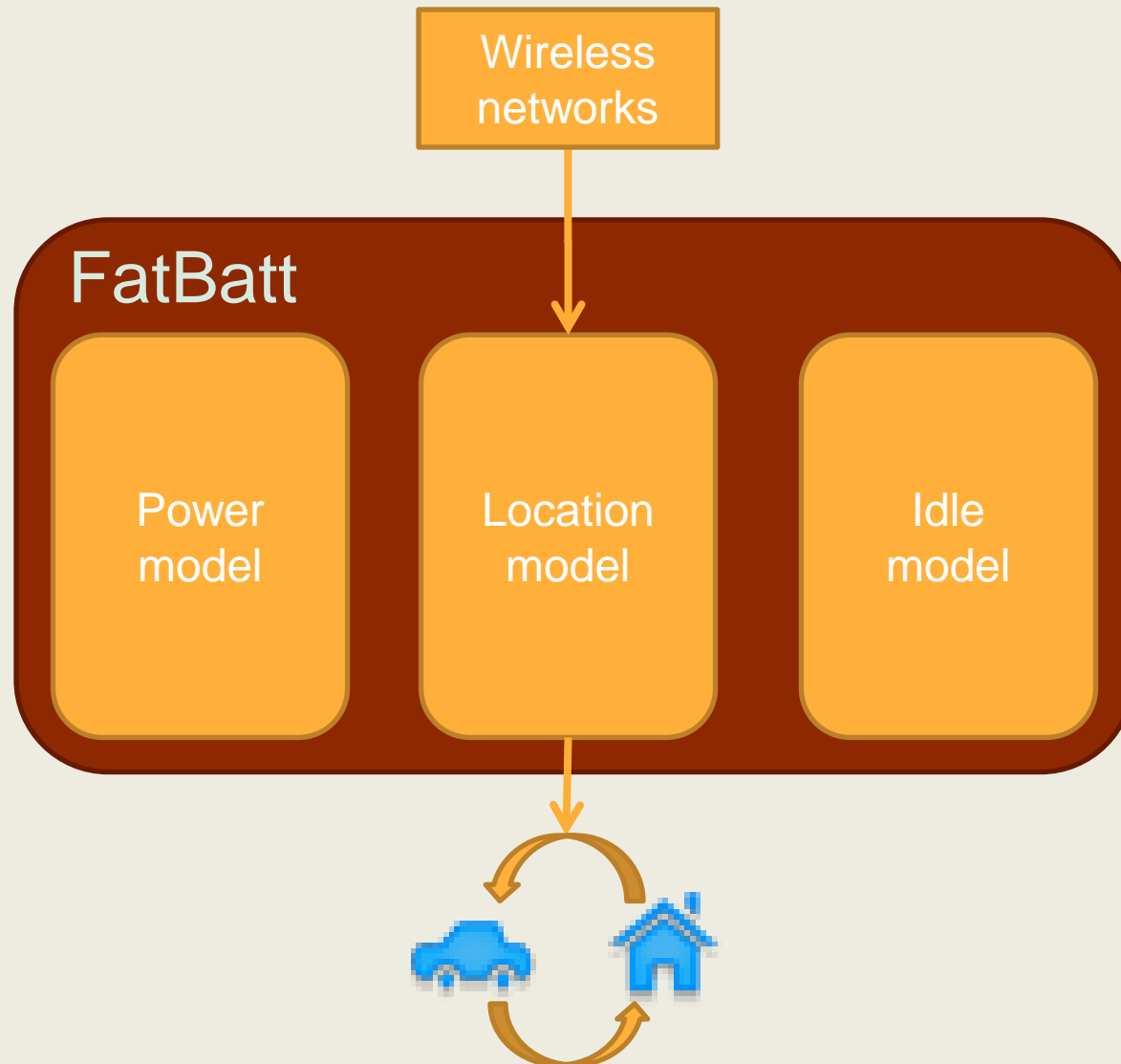
Reduced decision costs

Meaningful feedback

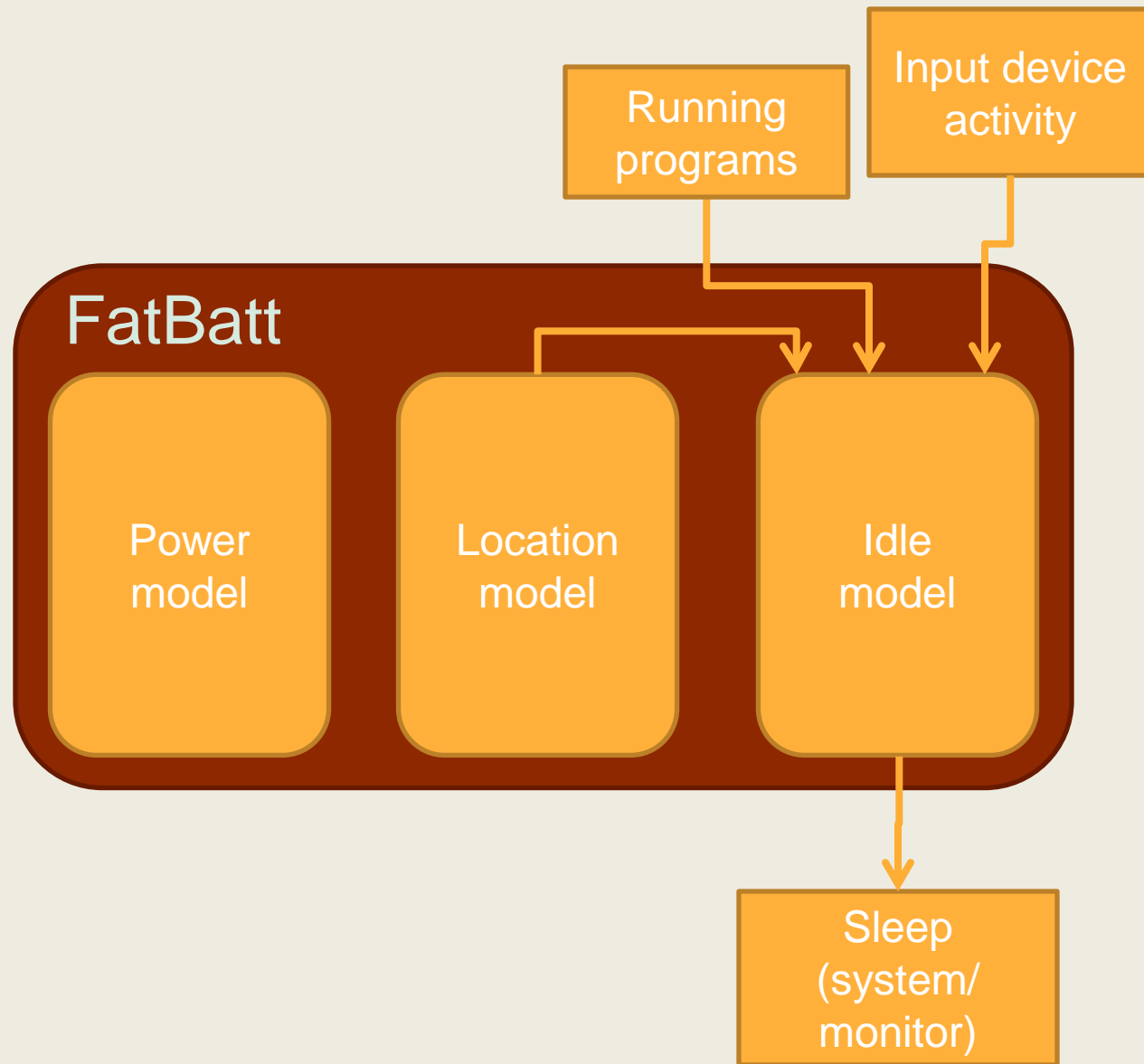
FATBATT SITUATIONAL AWARENESS



FATBATT SITUATIONAL AWARENESS



FATBATT SITUATIONAL AWARENESS



What's

NEXT?

NEW INPUTS



New physical sensors

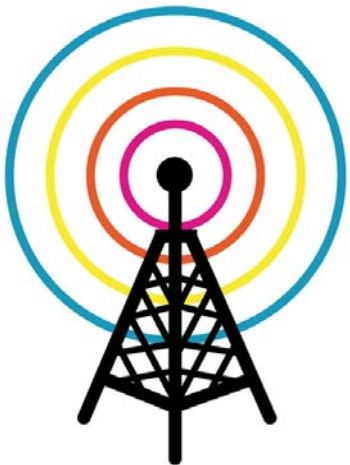
Better access

```
BATTERY_STATE_CHARGED = 0
BATTERY_STATE_CHARGING = 1
BATTERY_STATE_DISCHARGING = 2

class NoBatteryException(Exception):
    pass

class Battery(object):
    CHARGED = BATTERY_STATE_CHARGED
    CHARGING = BATTERY_STATE_CHARGING
    DISCHARGING = BATTERY_STATE_DISCHARGING

    def __init__(self):
        try:
            wmi.BatteryStatus()[0]
        except AttributeError, e:
            raise NoBatteryException
```



Off-device information

NEW CONTROLS

New power states

Better access

Off-device feedback

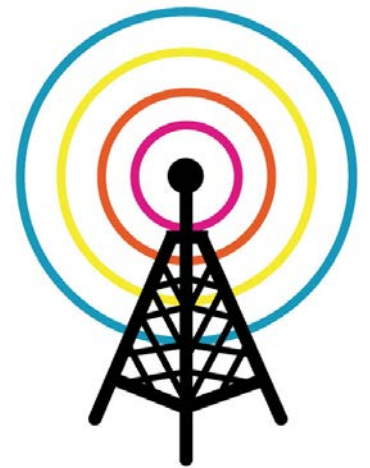


```
BATTERY_STATE_CHARGED = 0
BATTERY_STATE_CHARGING = 1
BATTERY_STATE_DISCHARGING = 2

class NoBatteryException(Exception):
    pass

class Battery(object):
    CHARGED = BATTERY_STATE_CHARGED
    CHARGING = BATTERY_STATE_CHARGING
    DISCHARGING = BATTERY_STATE_DISCHARGING

    def __init__(self):
        try:
            wmi.BatteryStatus()[0]
        except AttributeError, e:
            raise NoBatteryException
```



NEW MODELS



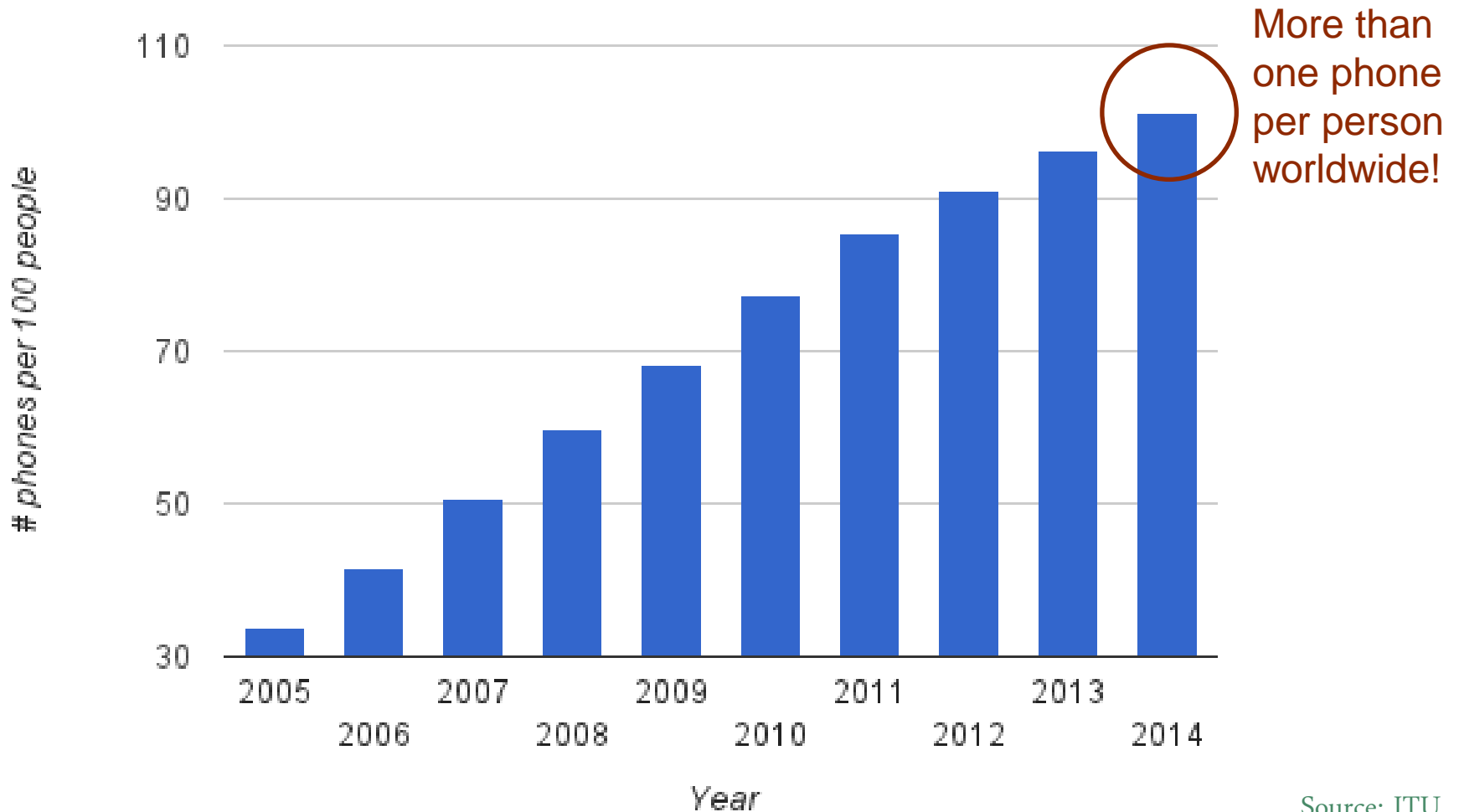


It's time to
take off the

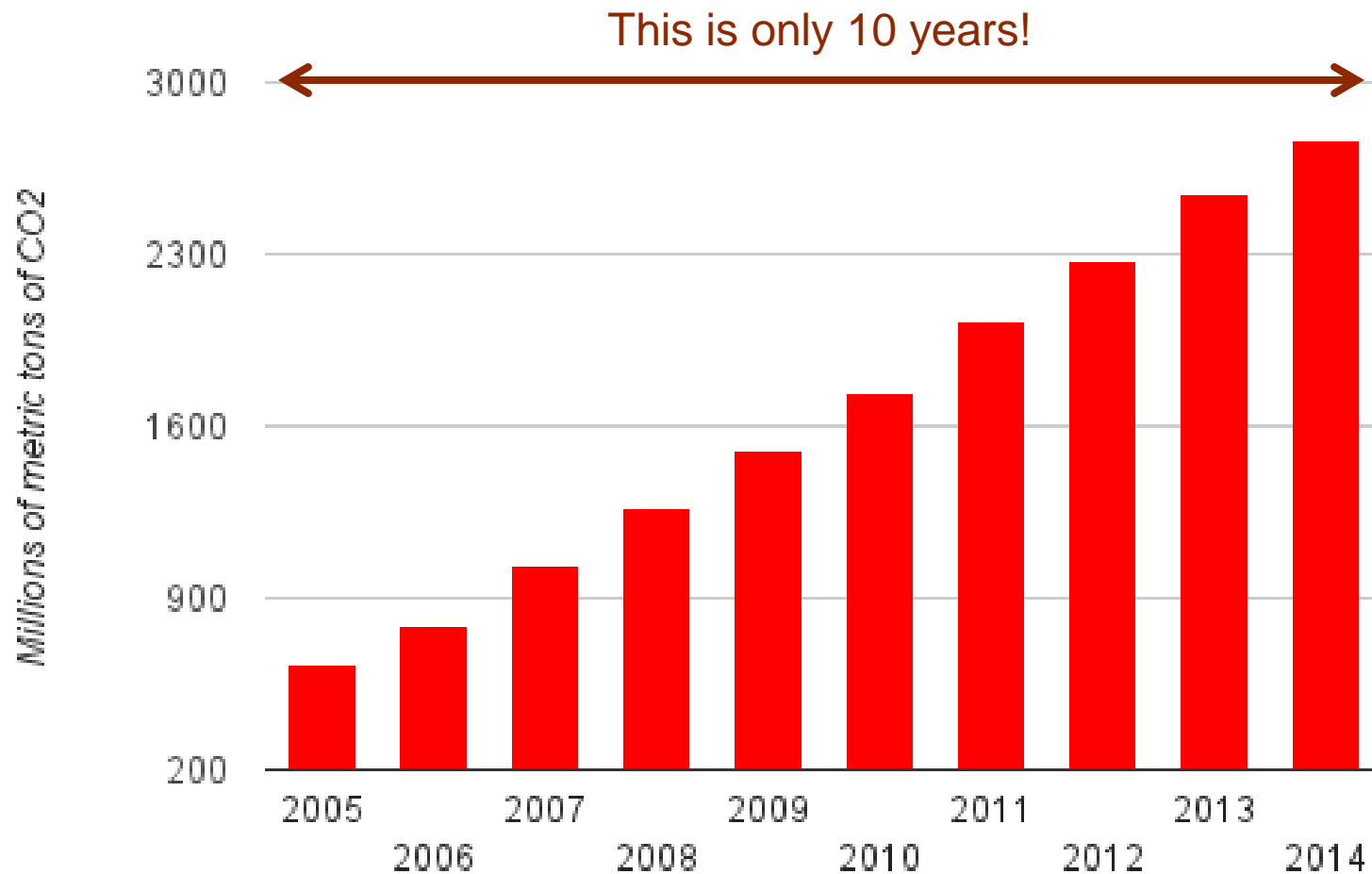
BLINDFOLD.

QUESTIONS?

Cell phones are taking over.



Cell phones are hungry!



Source: ITU, EPA, cellphone datasheets