



A Rhox Networking tem a
honra de convidá-lo para o

1 2º CAFÉ com TECNOLOGIA
31 de março de 2015

Tema: Economia de Energia e Otimização de
Espaço Utilizando Rede de Sensores.

Local: Auditório da Rhox Networking
SIBS Quadra 2 Conj. C Lote 12
Núcleo Bandeirante Brasília - DF

8:15: Café da manhã

9:15: Início da apresentação

11:00: Encerramento

A solução Redwood permite:

- Aumentar eficiência energética e reduzir custos
- Receber pontos para certificações Green - LEED, BREEAM, etc
- Otimização de espaço
- Integração de plataformas



RSVP: ditec@rhox.com.br - (61) 3051-5800

COMMSCOPE®



Café com Tecnologia

12
rhox
networking





Economia de Energia e Otimização de
Espaço Utilizando Rede de Sensores
RhoX - Commscope

Rhox Networking

Rede interna de
comunicação: dados,
áudio, vídeo e
automação



Enabling Intelligent Buildings via Smart Sensors & Smart Lighting

- **Objetivo** – Verificar se a solução Redwood é adequada para os seus projetos, utilizando como parâmetros : controle de despesas, produtividade/eficiência, segurança/estabilidade e imagem.
- **Agenda**
 - Considerações sobre Redwood
 - Demonstração

Commscope em números

Mercados Atendidos

Broadband
Enterprise
Wireless

Presença (países)

100+

Faturamento

\$3 Billion+

Patentes

2700+

P & D

**USD 100
Milhões
anualmente**

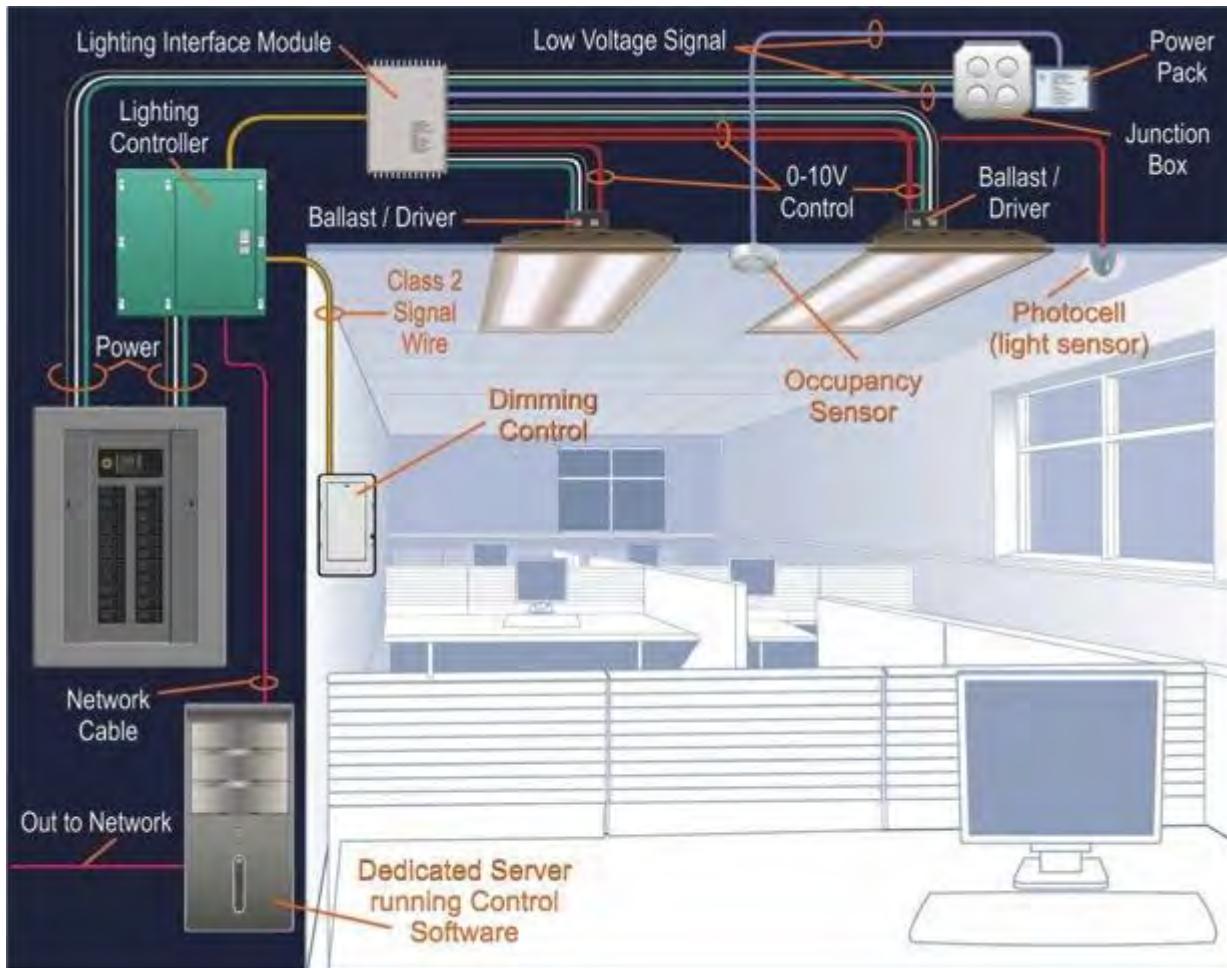
Funcionários

11,000+

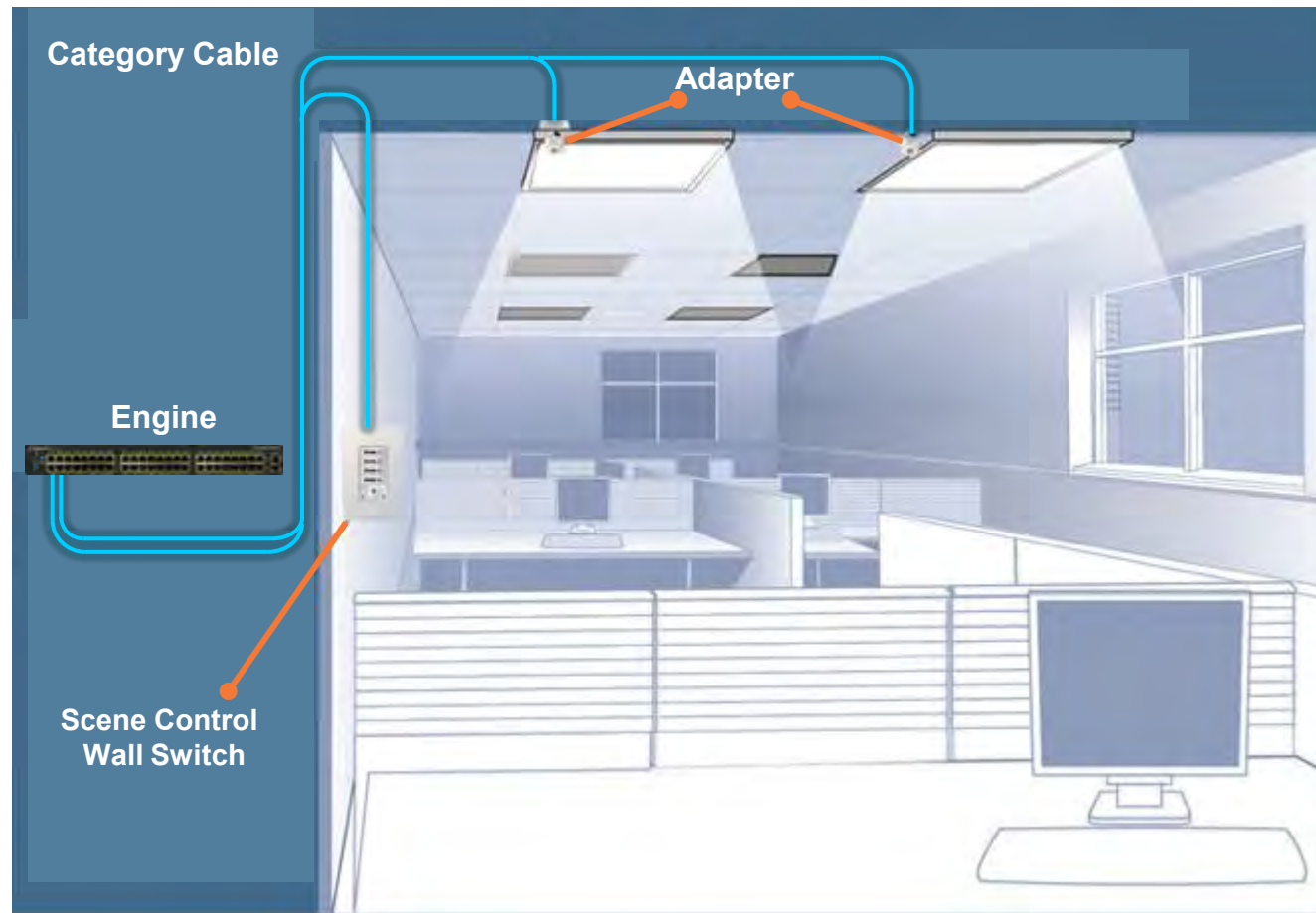
Fábricas

20+

Cabeamento tradicional : controle e iluminação



- 3 separate systems for power, control and measurement
- Significant design time and field set up
- Limited control – zone/per-room
- Limited intelligence
- Not easily expanded, upgraded or re-provisioned



- One system for power, control and measurement
- Low cost installation and set up
- High-density sensor network collects data and provides fine grain control
- Easy to re-provision
- Most efficient lighting platform anywhere

Produtos Redwood

Infrastructure



- Power, control and data to each fixture
- Engine powers / controls ~3500 ft² (~325m²) of lighting
- Director enables up to 225,000 ft² (20,000 m²)

Sensors



- Sensors for motion, daylight, and temperature
- Accepts category cable with RJ45 terminals
- Installs without tools

Wall Switches



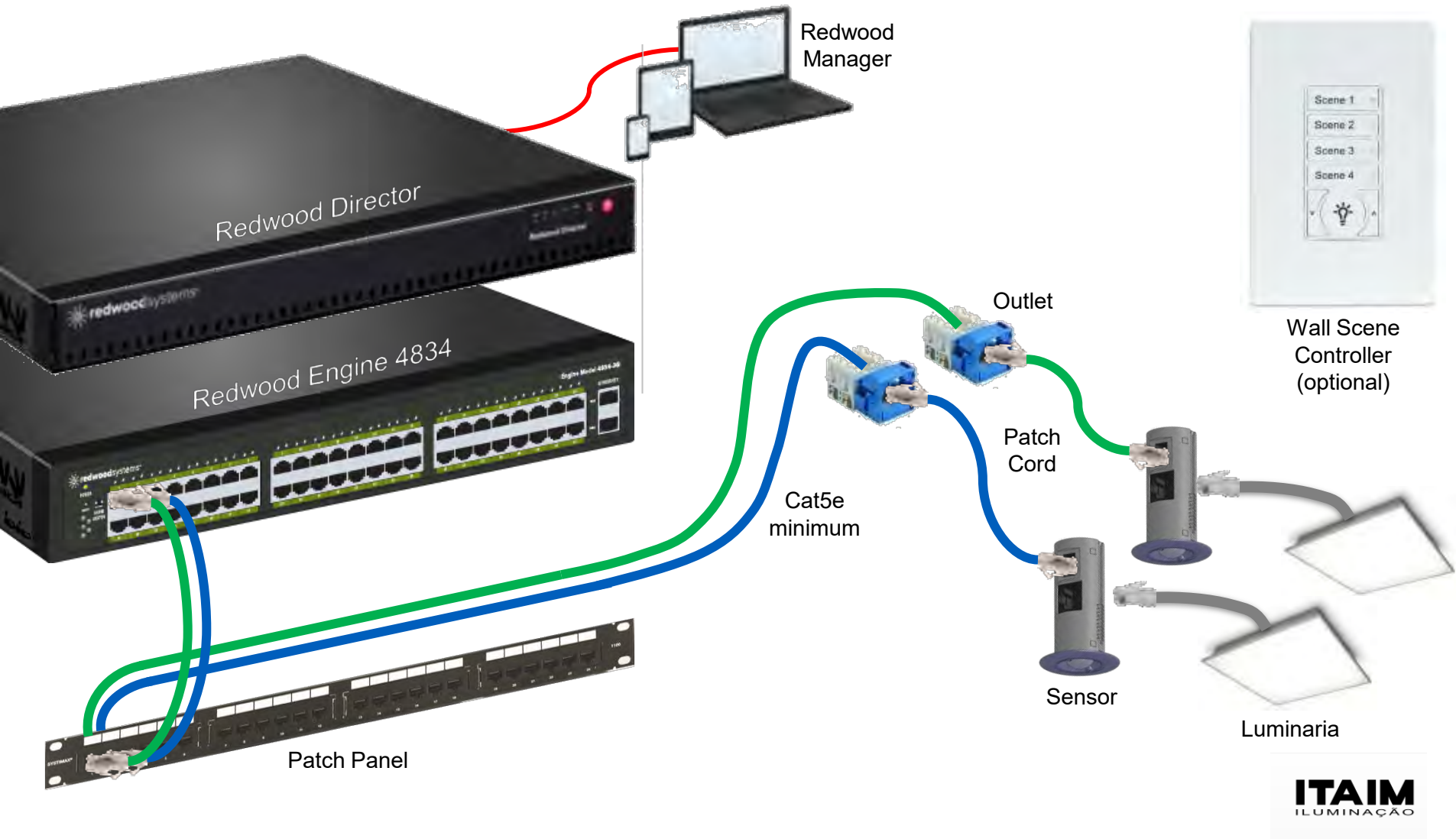
- Dimming, on/off control
- Scene selection capabilities
- Sensors for motion and temperature

Software



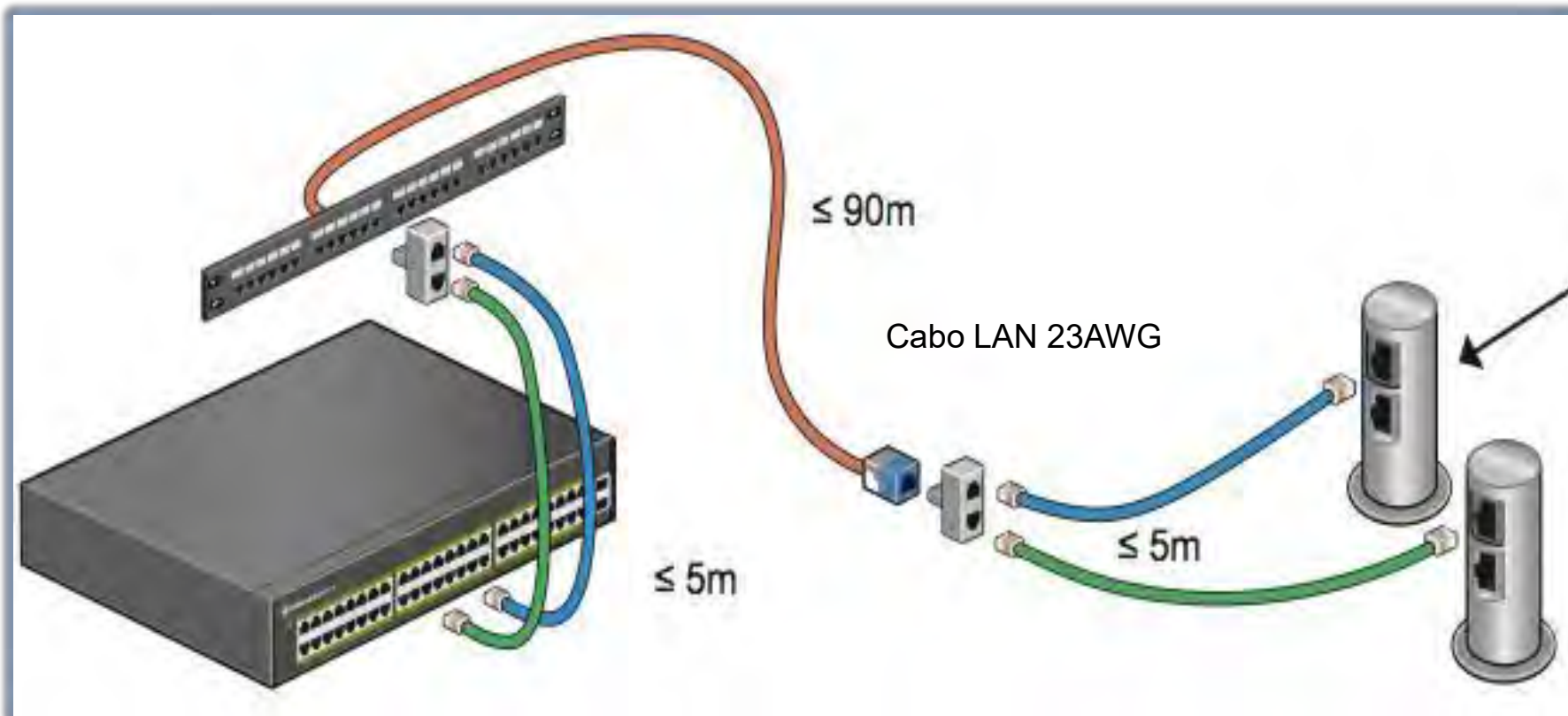
- Web-based control, administration and reporting platform
- Real-time sensor data and historical trend charts
- API access to data

Arquitetura Simplificada

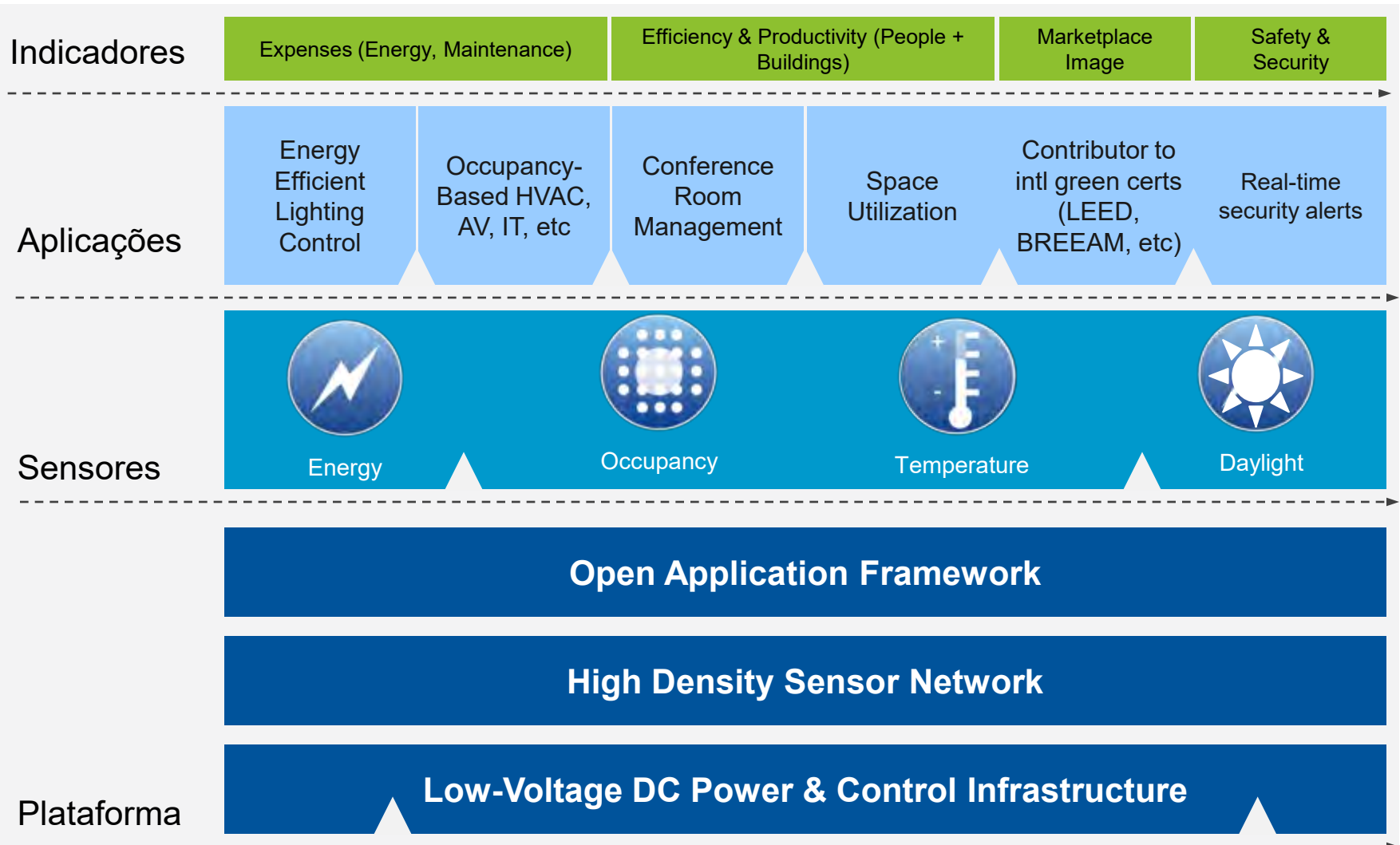


Facilidade na implantação

Configuração possível : 1 cabo para cada 2 circuitos de 34W (48VDC@700mA)



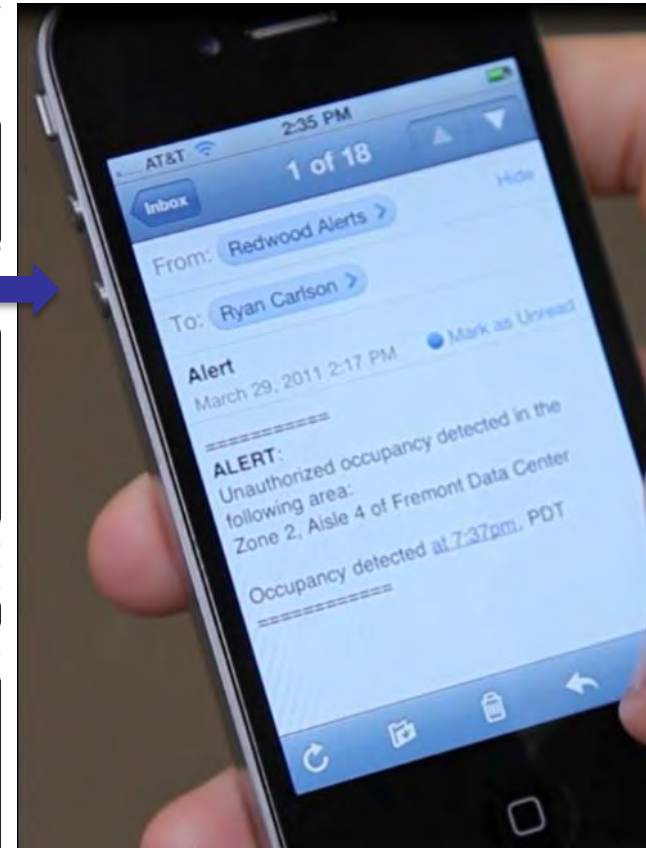
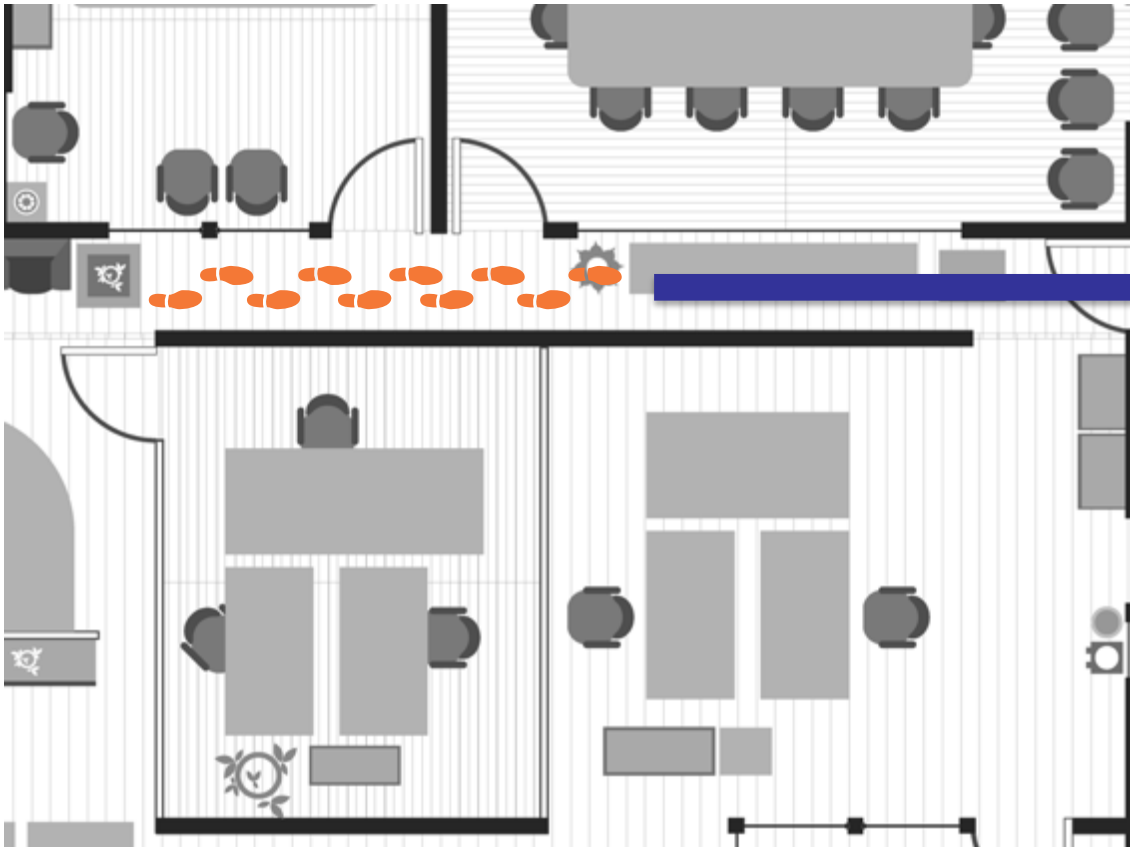
Indicadores, Aplicações, Sensores & Plataforma



APLICAÇÃO : Segurança de Pessoas e Patrimônio.



Alert to unexpected presence, validate security walkthroughs, identify occupants in emergency



APLICAÇÃO Case Study Facebook : Otimização de Espaço



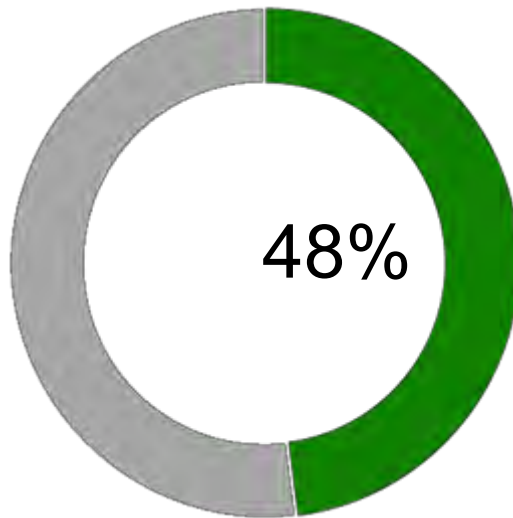
- Used in Menlo Park campus to show presence in conference rooms
- Occupancy data sent via Open Application Framework to Facebook floorplan app
- Productivity - reduced employee time to find open meeting room from several minutes to 3 seconds
- Space utilization – data showed low utilization of large conference rooms leading to reduction in number of larger rooms by 60%

APLICAÇÃO :

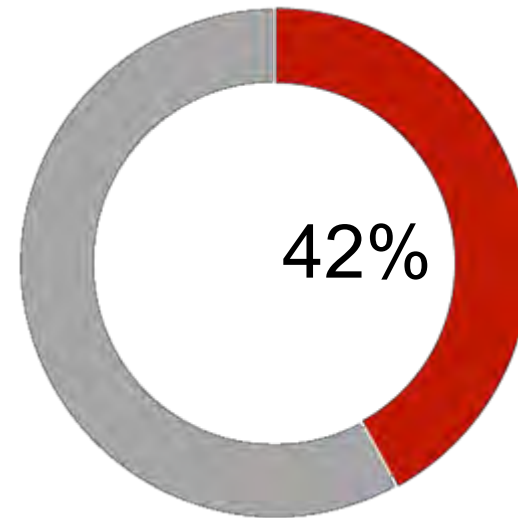
O que os nossos clientes querem saber?

- Which rooms show the highest usage?
- Are the rooms fully occupied?
- Which areas are under-used and when?
- How does the occupancy pattern change over the course of that day, hour by hour?





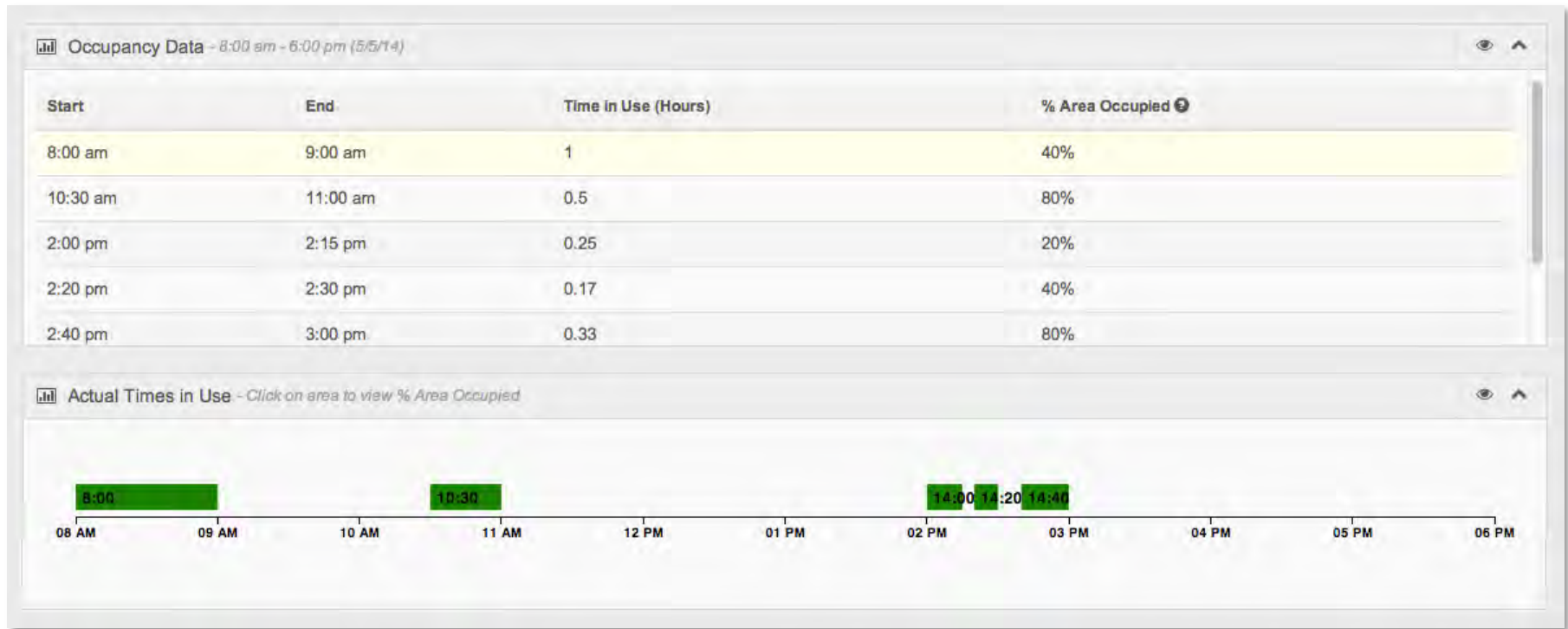
% time in use



Average % area occupied
while in use

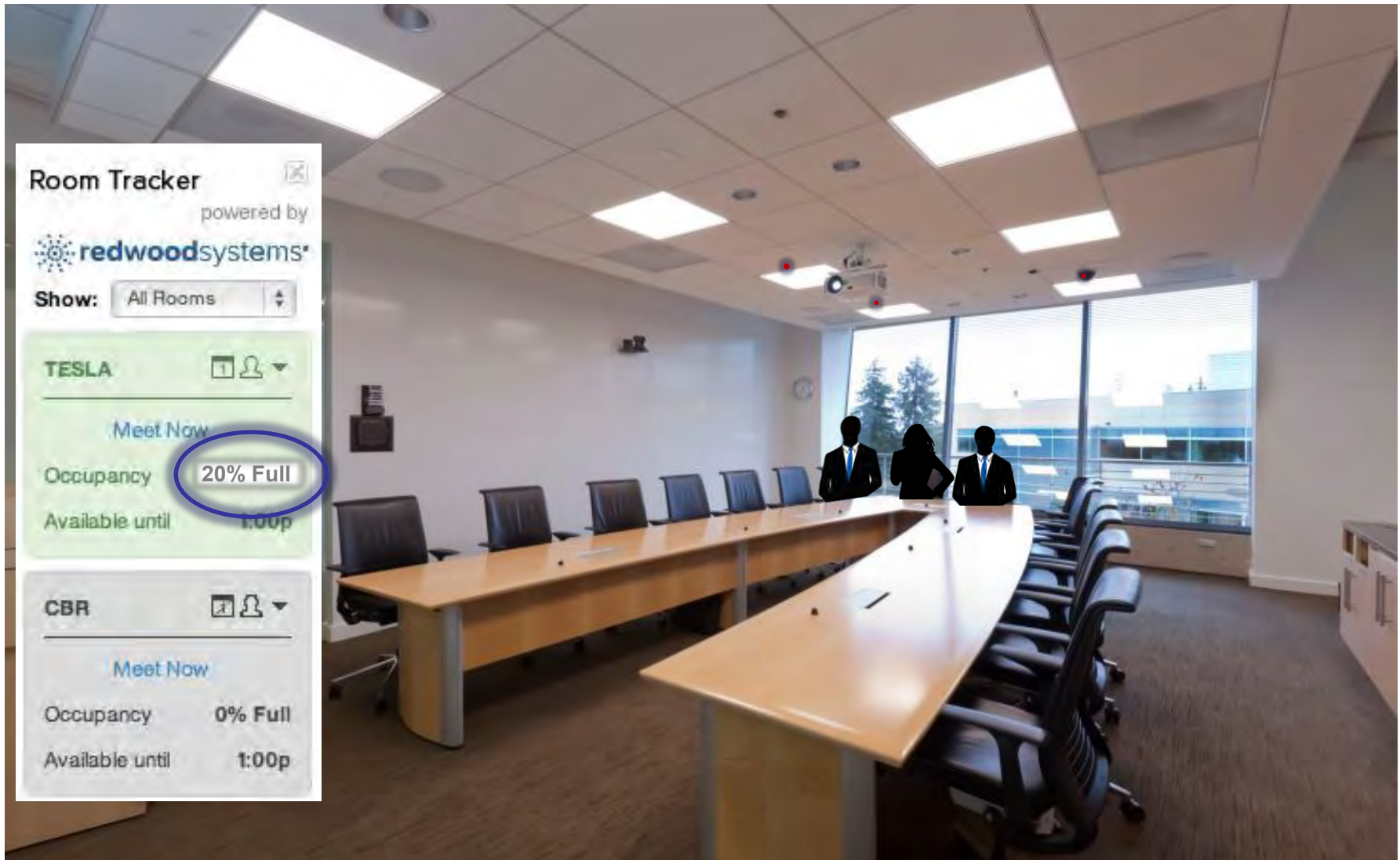
How often was this space used the week of May 5th?

When in use, how much of the area was used?



What was the actual time usage on May 5th?

Aplicações e Programação para a utilização do espaço



APLICAÇÃO : Agendamento de salas eficiente.

Real-time data and control

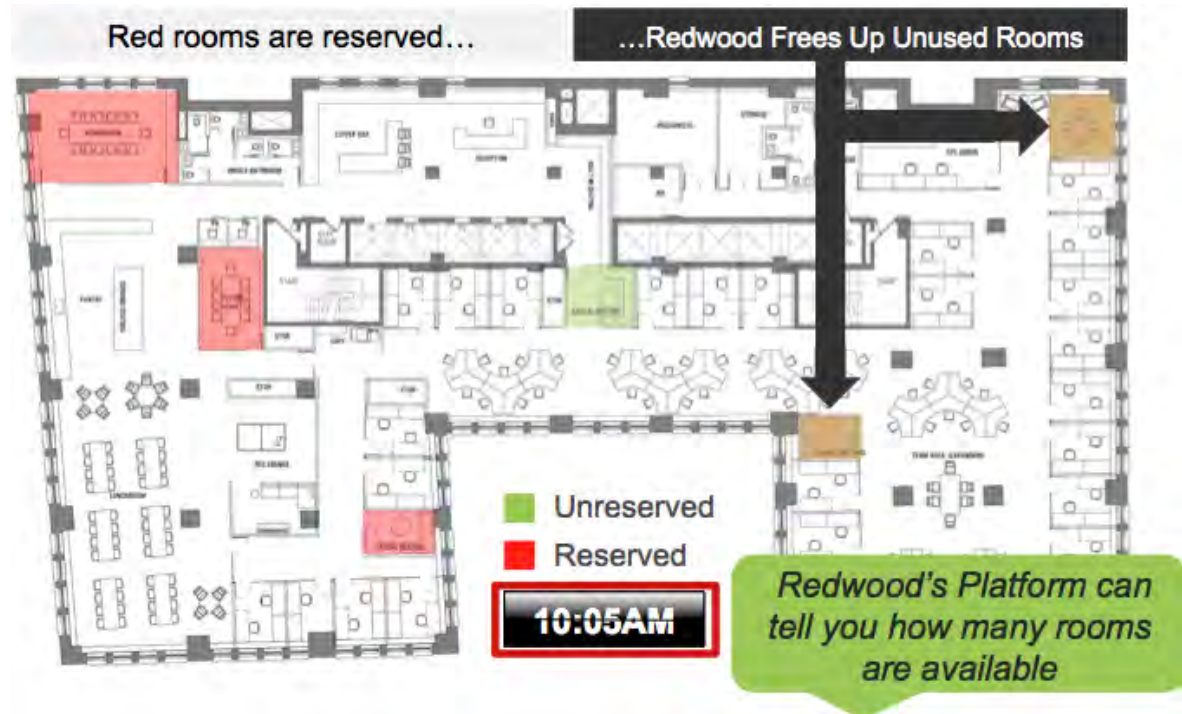
- Sensors display real-time room occupancy
- Integrates with MS Outlook Exchange and Google Calendar
- Displays rooms that are scheduled but not occupied
- Shows percent of floor space occupied to optimize room capacity



APLICAÇÃO : Redwood provê informações detalhadas da ocupação.

Information readily available for analysis

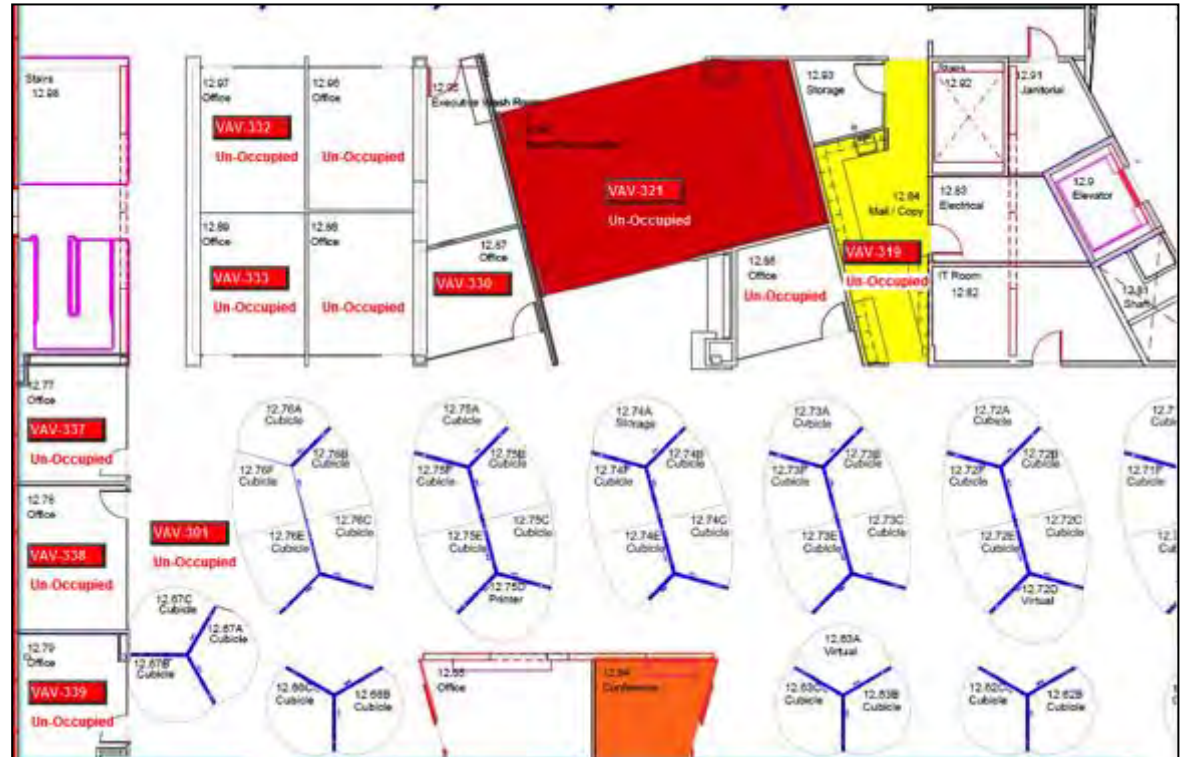
- Sensors inform about occupancy levels across time and area
- Segmented by room, room type, time of day and week
- Requires third-party integration



APLICAÇÃO : fácil integração com sistemas de ar-condicionado.

Sensor data far beyond a thermostat

- Sensors across the floor-space for high visibility into building temp. and occupancy
- Occupancy trend analysis used to adjust set points
- Requires third-party integration



APLICAÇÃO : Eficiência Energética e controle de Iluminação

Lighting is optimally tuned to conditions

- Automatically adjusts lighting to occupant needs
- Maximizes the life of the light fixture
- Policies adjusted easily to fit needs of a given space



Sensor de Ocupação On / Off

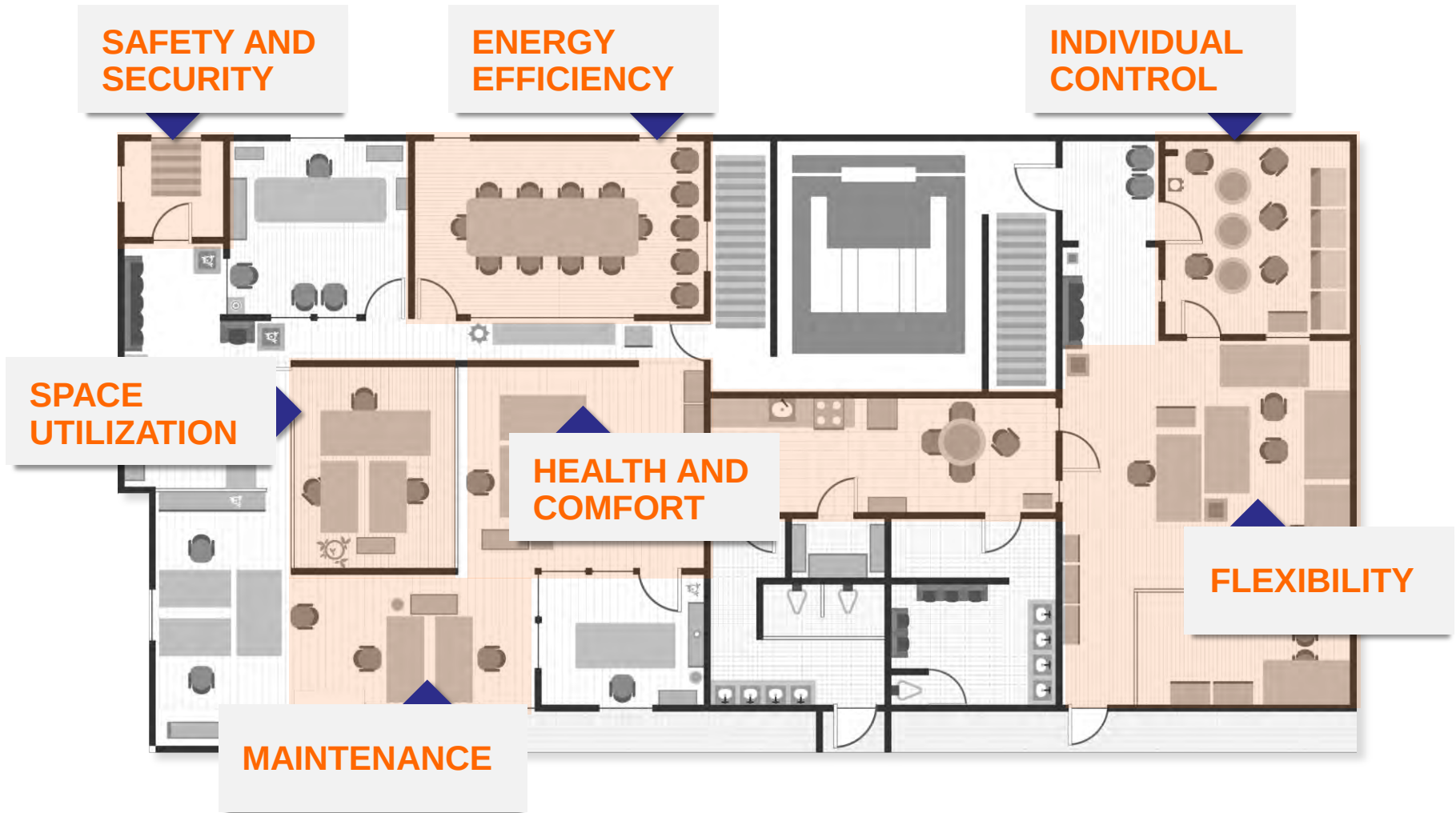


Controle Avançado de Iluminação

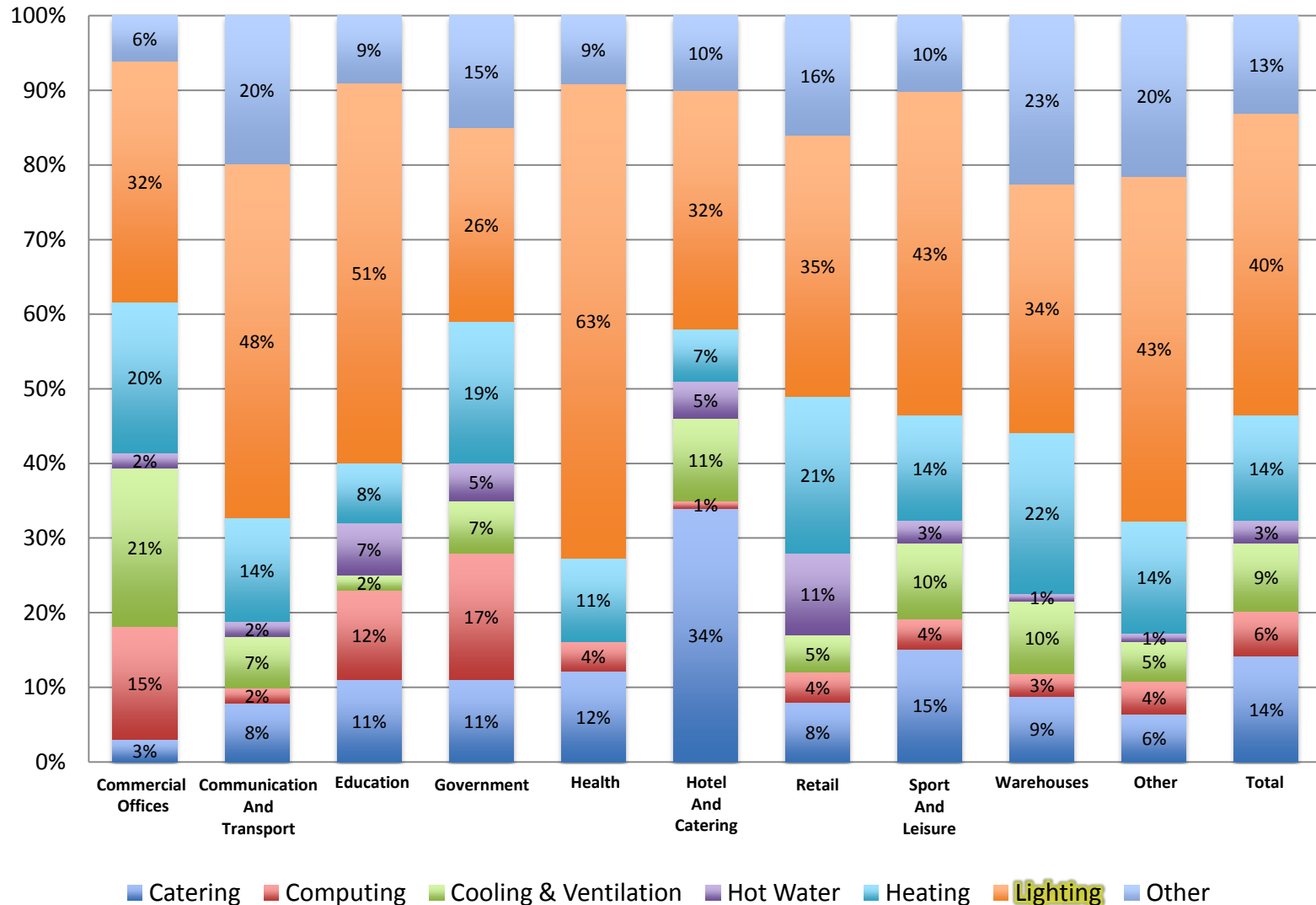
Apresentação e Modos personalizados de controle por meio de dispositivos móveis



Sumarizando



Energy Consumption



APLICAÇÃO : Redwood Contribui com até 29 Pontos LEED

Category / Credit	Possible Points	Description	Level	Points Required
Optimize Energy Performance	1-19	1 pt for every 2% reduction in energy from ASHRAE 90.1 2007	Certified	40-49
Enhanced Commissioning	2	Rigorous commissioning process	Silver	50-59
Energy Measurement and Verification	3	One year M&V post install	Gold	60-69
Controllability of Systems - Lighting	1	Individual / group control of lights	Platinum	80 and above
Thermal Comfort-Verification	1	Verification of thermal control of temperature	* Contingent upon points achieved through alternative methods. Consult your LEED specialist	
Innovation in Design	3	Low-mercury lighting; Flexible building systems; Process energy savings		
Total Possible Credits	29	110 Total Points in LEED NC		

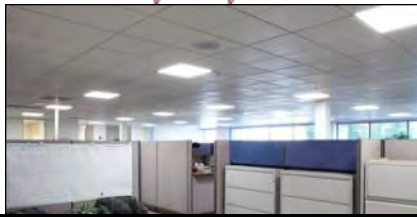
Energy Saving Case Studies

Commercial Office Customers



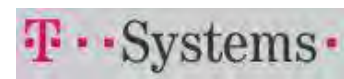
75% Savings

Renovation



78% Savings

Retrofit



75% Savings

Retrofit

Data Center Customers



91% Savings

Retrofit



80% Savings*

New Construction



90% Savings

Renovation

Cliente Ideal





Data Centers “Lights Out”



Escritórios: Horários reduzidos



Construções < 3 anos



Alturas maiores a 5 m



Exteriores

Obrigado

fmontoro@rhox.com.br

www.rhox.com.br

3051-5800