

**“Ava” The next step to  
InfoLink**

# Our Problem Statement

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How can Crown Equipment help make the warehouse **safer**, more **productive** and drive profits to the warehouse by **reducing their resource needs**?

# Main Issues

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(1)Difficult to employ desirable staff strength

(2)Existing staff are impermanent

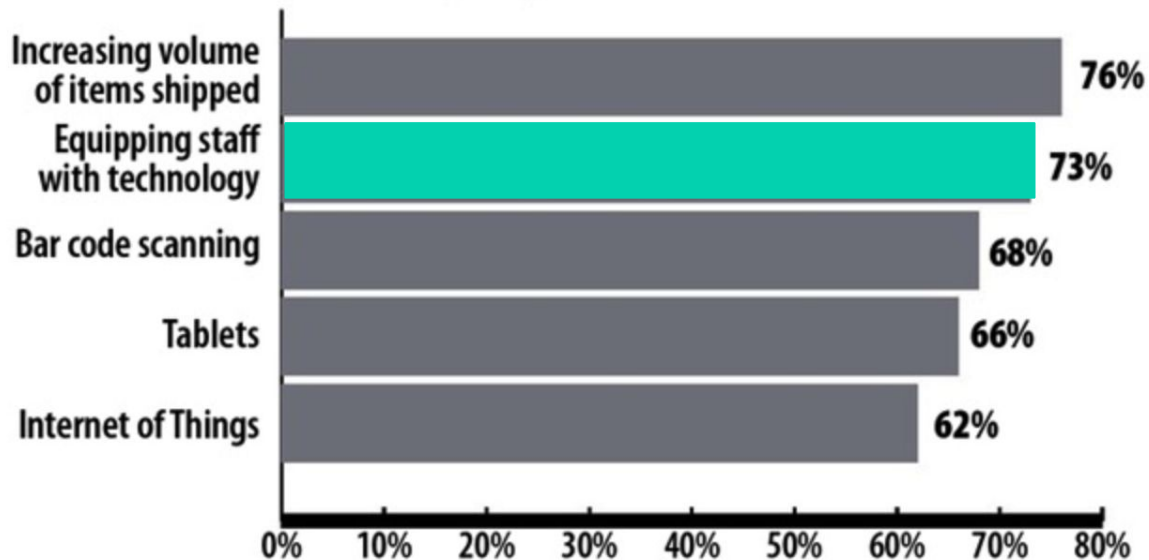
(3)It takes around \$10,000 to train an operator and make him/her OSHA compliant

(4)Forklifts account for around 85 deaths every year

# Our Analysis

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## Processes and tools investing in by 2020:



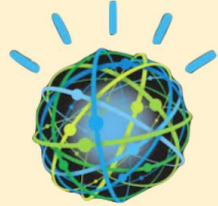
*Source: Zebra Technologies' Warehouse Vision Study of 1,378 respondents from 12 countries*

# Our Solution - Warehouse 2030

MYO BAND



AR GLASSES



Ava  
The next step  
for InfoLink



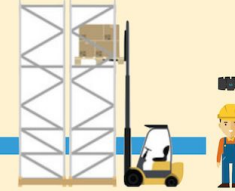
Keeps track of  
Inventory and Tasks



Inputs Tasks into Ava



Ava distributes task  
amongst the fleet. They  
compute optimal routes  
and retrieve order



For Higher and Larger  
Storing, Operator  
controls with MYO from  
a distance with option  
for gamification



Go back home happy  
and safe



Get data with different  
levels of abstraction



Better Impact  
Communication and  
Management



Better Impact  
Communication and  
Management

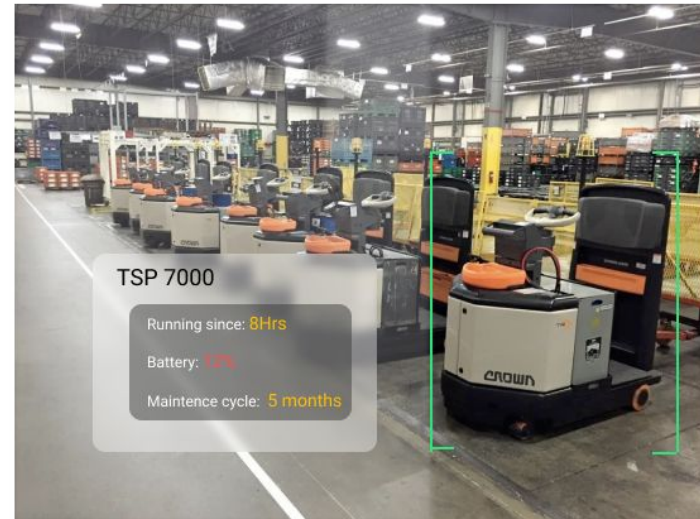
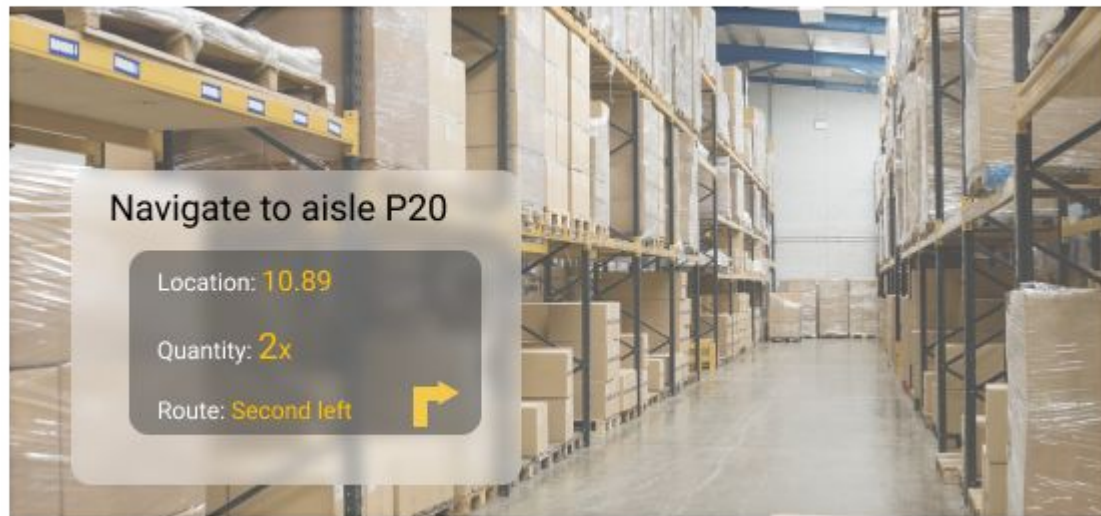


Employee management,  
retention and sufficient  
workforce all throughout  
the year



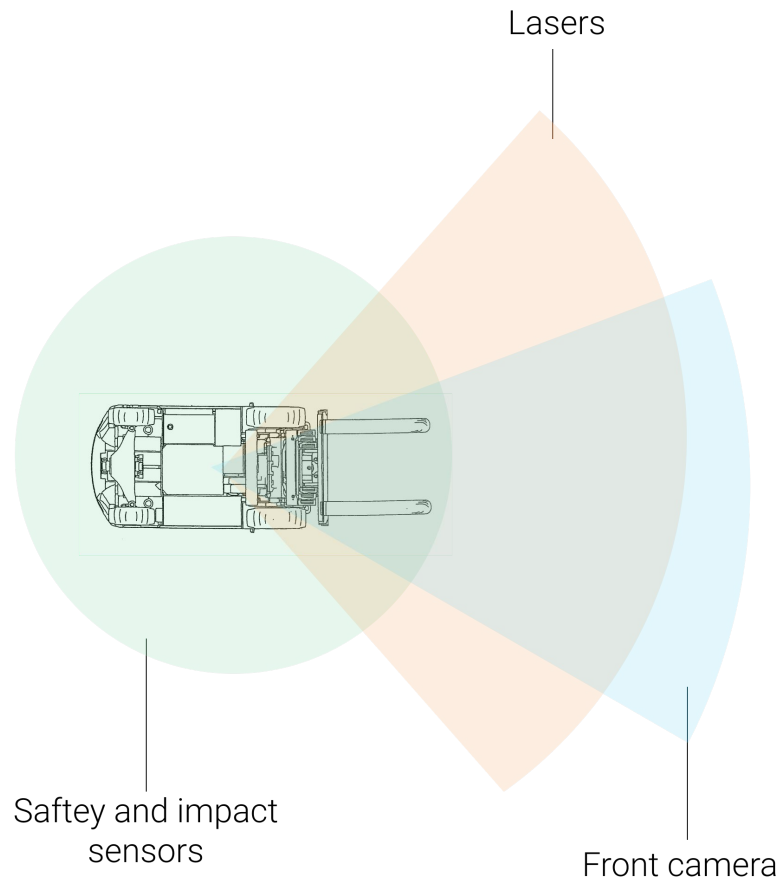
# Hybrids

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# Hybrids

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# Customer Segments

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Warehouses



**Age: 25-50**

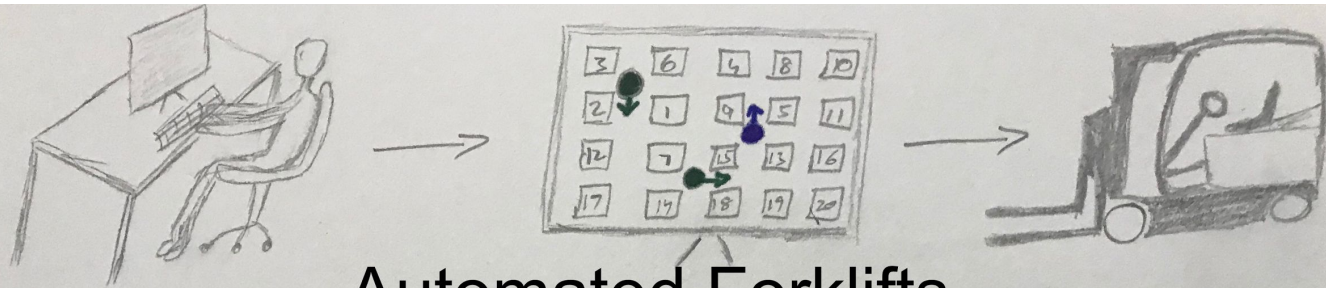
**Work: Warehouse Manager**



# Storyboard

## Automated Forklifts

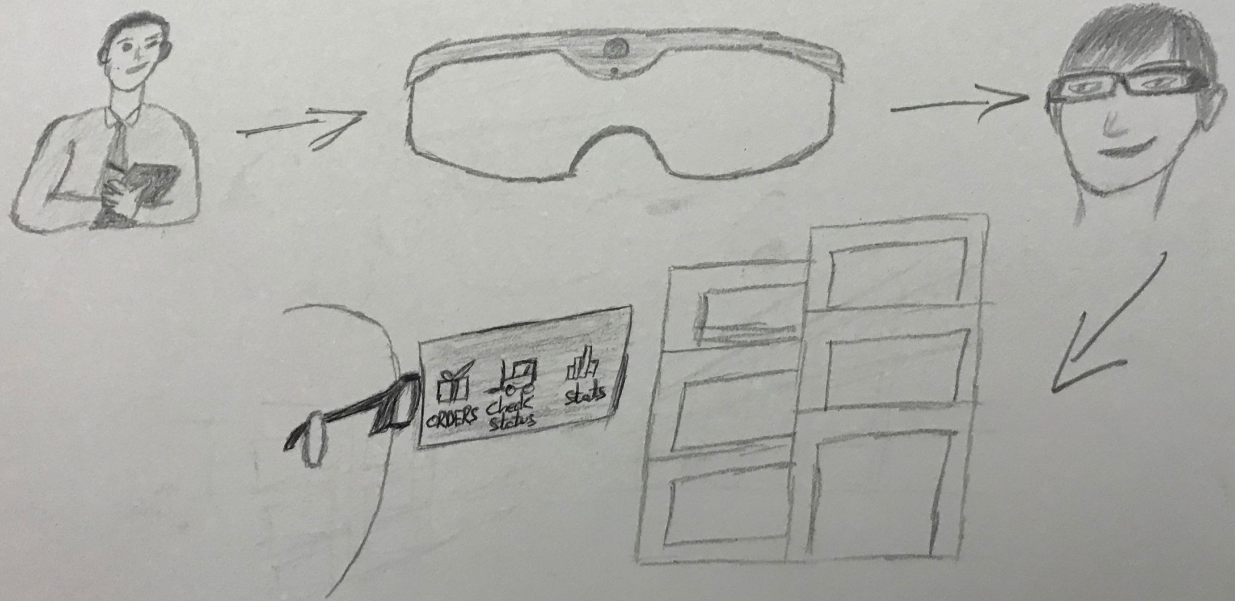
- A controlling station will have warehouse map
- Control station will give commands to the forklift



## Automated Forklifts

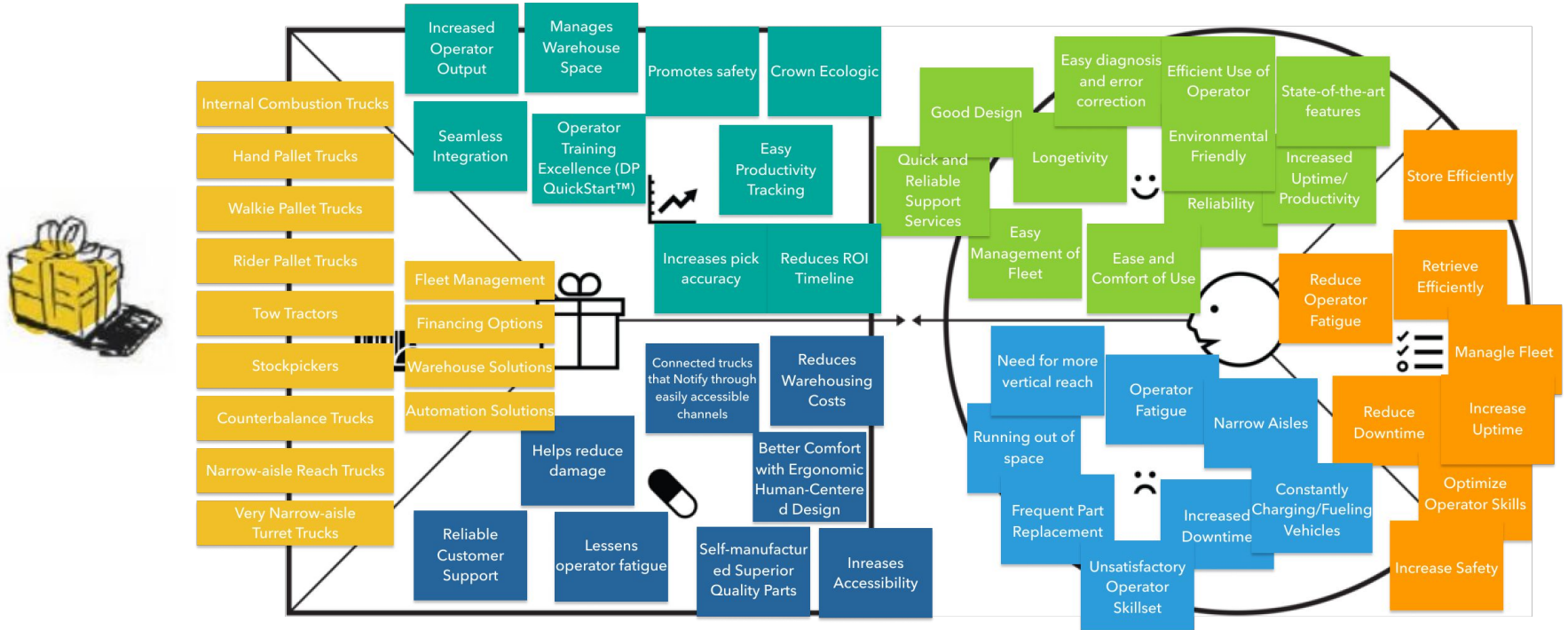
## AR Glasses

- Manager will have AR glasses
- Manager can go around the warehouse to check all stats, and productivity



## AR Glasses for Manager

# Value Proposition



# Value Proposition

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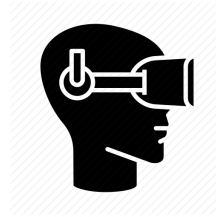
Fleet minimization



Automation



Sustainability  
Safety  
Save Time



Superior Quality

## Channels

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Dealers



Website



Retailers

## Customer Relationships

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Personal Assistance

Automated services

# Key Resources

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- Manufacturing plant
- Manufacturing machines
- Point of sales systems
- Distribution network
- Raw material



- Infolink platform
- Intellectual patents for AGVs
- Massive financial support from the company



- Human resource
- Developers
- Designers
- Workers
- Managers, etc

# Key Activities

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- Development & manufacturing of AGV forklifts
- Creating test environment
- Testing those forklifts in test environment
- Selling the new product line to the customers



- Platform development
- Design
- R&D for intellectual properties
- Filing for patents for AGVs
- Massive financial support from the company

# Key Partnerships

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Automated driving forklifts



Google Glass



MYO Armband

# Key Partnerships

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- Automated driving forklifts
- Re-invent the automated wheel and delay or use existing resources.
- Big companies like Uber, Google have either partnered or bought CMU department onboard.



# Key Partnerships

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- Google Glasses
- Glass EE is for industry workers in their workplace.
- Big companies like GE, Boeing, DHL and Volkswagen have already started testing it in their workplace.

# Key Partnerships

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- Gestures to access forklifts
- If Crown wants this feature to be exclusive they can buy it or put clause in their contract.
- Customized gestures for industry requirement.

# Revenue Streams

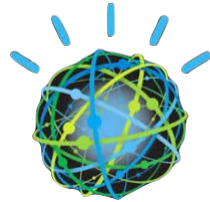
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Asset sale of the semi-automated vision guided forklifts or Renting forklifts



A cut from the Asset sale for providing more channels for Thalmic Labs



Asset Sale for initial set-up  
Subscription fee for additional features



A cut from the Asset sale of Smart Safety Glasses for providing more channels for

# Cost Structure

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Value Driven - Will never compromise quality, offers personalized services

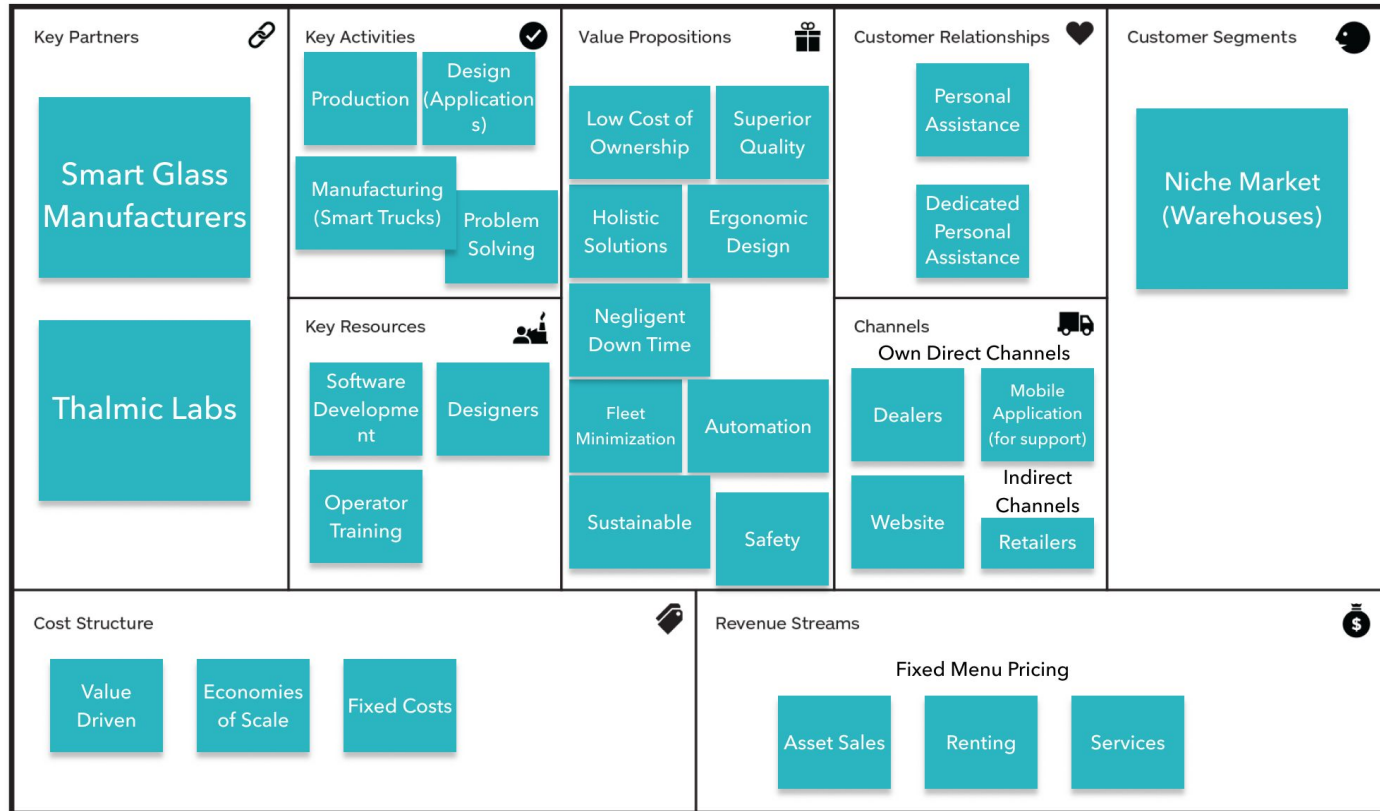


Fixed Costs - Manufacturing has mostly high proportion of fixed costs



Economies of Scale

# Summary



# With our Solution...

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Is the warehouse a safer place?

YES



Has the immense need for human resource reduced?

YES



Has the cost of training and maintaining staff reduced?

YES



Has the uptime increased?

YES



Is there efficient fleet management?

YES