

The background of the slide features three bright green apples. One is in the foreground, slightly to the right, and two are behind it, one to the left and one to the right. The apples are set against a white background that transitions into a solid green bar at the bottom of the slide.

TESCO BUSINESS CASE

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Laser Supported Food Inspection

Executive Summary

- Automated sorting damaged fruit and vegetables
- Our goal: to provide technology for low-cost and accurate evaluation of fruit and vegetables
- Our technology: laser-based inspection
- Current technologies are either not efficient enough or too expensive
- Our idea: our know-how, your benefit =
win-win approach



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Technological outlook

Application of dynamic speckle pattern analysis in apple sorting lines

Automatic identification of

DAMAGED

and

HEALTHY



apples

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Problem Solved

- Demand: lower cost and precise tool to sort damaged fruit and vegetables
- Our technology is PATENT protected
- Prototype device developed for apples
- Solutions for other fruits and vegetables can be provided on demand



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Available Solutions and Alternatives

- Manual sorting – labor intensive
- Acoustic technology – high risk of contamination
- Spectroscopy – expensive
- Chlorophyll fluorescence – effective but complex and costly to implement



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Proposal

You:

- will improve the quality of fruit control
- achieve this goal at low cost
- gain quality leader reputation on the market

We:

- provide device for apples
- provide support
- intend to launch new products for other species



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Conclusions

**We are the cheapest among the best
and the best among the cheapest**

Benefits: labor reduction, reduce transport cost, reduce waste, contributes to positive reputation, improve vendor selection.

Belief Points: well established scientific background, results of test in the institute, short trial period is possible.



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Return on Investment

Assumptions:

Price: \$6 000, 5 per line, 2 lines in each center

Maintenance annual fee: 15%, system implementation: \$ 500 000

10 logistics centers

50 supermarkets

2000 small and medium markets

Ca 10% waste (damaged items)

Damaged items eliminated in logistic center

Return on Investment

Average margin on 1 kg: 17 cent

Hypermarket weekly sell: 8 000 kg

S&M sell: 2 500 kg per week

**Waste and operation cost related: 40 000 \$
per week ca 2 MM yearly**

