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DEVELOPMENT AND INNOVATION OF DUS TEST TOOLS

Document prepared by an expert from China

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The annex to this document contains a copy of a presentation on “Development and innovation of DUS test tools”, made at the thirty-seventh session of the TWC.

[Annex follows]

Development and Innovation of DUS Test Tools

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1



子曰：工欲善其事
必先利其器

To do a good job, one must first
sharpen his tools.

—Confucius

2

Index

1. Introduction
2. Achievements
3. Problems
4. Future Plans

3

1. Introduction

4

Situation

DUS test is a laborious, tiring and dirty job. At present, our DUS test is mainly depend on people and hands. This picture shows a true situation in China. Many people were organized in sowing thousands of maize varieties within 2 days. After that they continue to arrange colossal number of people to collect data.



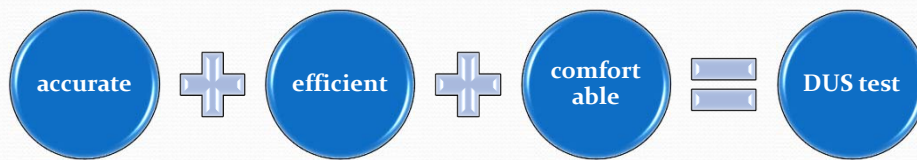
5

Risks

- More people produce more errors.
- Hard and boring work reduces people's happiness.
- More and more tasks come, but our job becomes slow and slow.

6

Our dreams



7

Who help us?

- As DUS tool market is still quite small, companies is reluctant to invest capital in this market.
- We have to develop special DUS test tools by ourselves.



8

2. Achievements

9

1. Tools used in standardized sowing mode

2. Tools used in measurement

10

1. Tools used in standardized sowing mode

2. Tools used in measurement

11

Seed storage

The effectiveness of mobile pallet racks



12

Compact design of Seed samples

Seed bottle

plot card

5*10 Bottle case

13

Laser marking lables: legible and reusable

plot number

Serial number

14

Sowing machine: flexible and efficient



portable seeder:

It is suitable for planting in residential areas and can recycling the seeds easily.

15

Improvements:

1. Reducing errors in reading lables and distributing samples.
2. Recycling use lables and bottles.
3. Improving efficiency and standardization.

16

1. Tools used in standardized sowing mode

2. Tools used in measurement

17

Measuring platform 1.0



cutter part + thresher part + measure part + phtography part + recorder part

18

Thresher part



19

Cutter part



20

Other cutting tool



Corn tassel scissor:
Converted from **cigar scissor**

Tassel
Equilong
Adjustable



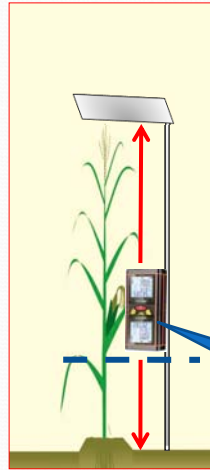
21

Laser measure part



22

Plant height measuring tools



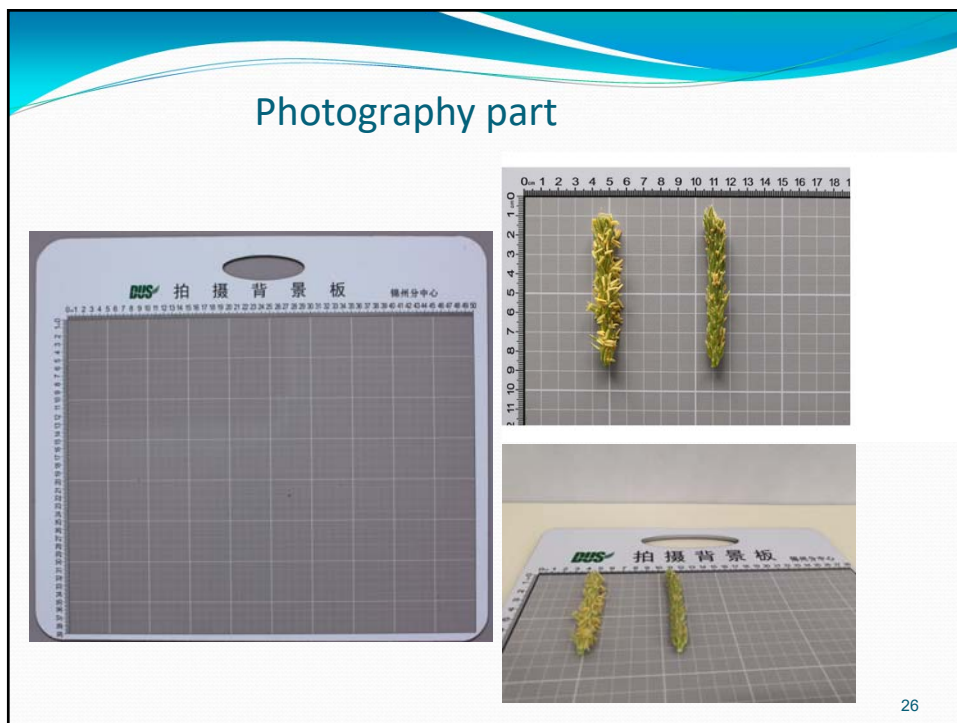
Measure the plant height and ear height at the same time

23

Other measuring tools



24



Measuring platform 2.0



Features:

1. User-friendly design.
2. Attractive appearance.
3. Mobile camera table.
4. Totally-enclosed thresher.
5. Safe and hidden electric circuit.
6. Industrial integrated computer to record data.
7. Automatically barcode scan.

27

Thresher part 2.0



Quieter
Cleaner
More convenient
attractive
appearance

28

81decibel
Like on a busy road

96decibel
The voice of drilling machine

113decibel
The voice of aeroplane propeller

29

Corn ear cutting module2.0

Safer
Cleaner

30

Image measurement tool 2.0

data acquisition unit



Portable
Dustproof and waterproof
store data in the cloud

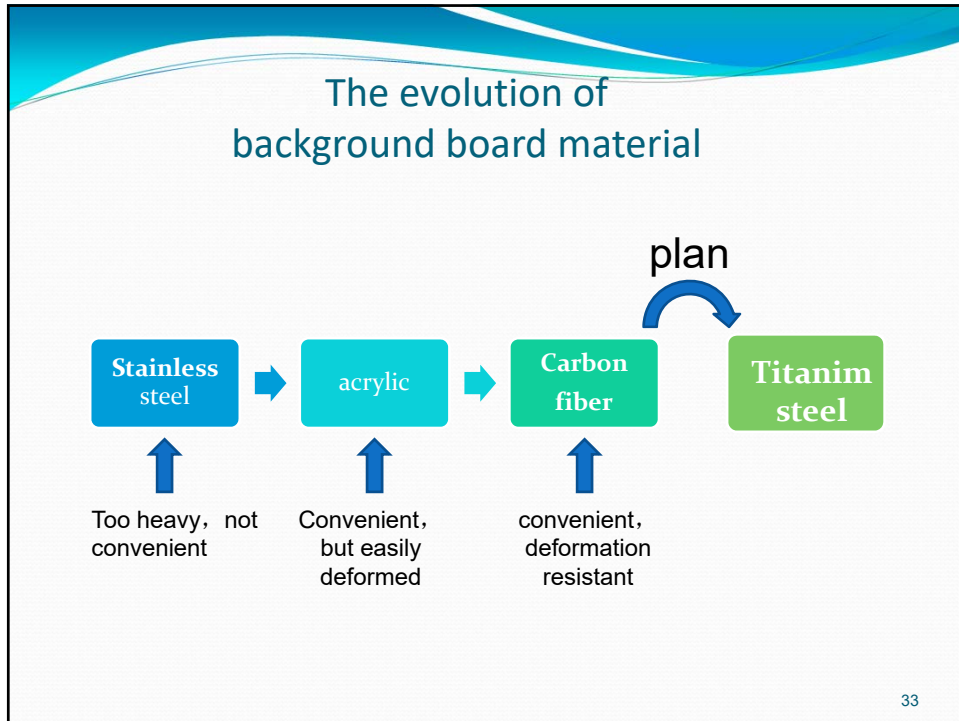
31

Photography part 2.0

Converted from **Medical platform**



32



3. Problems

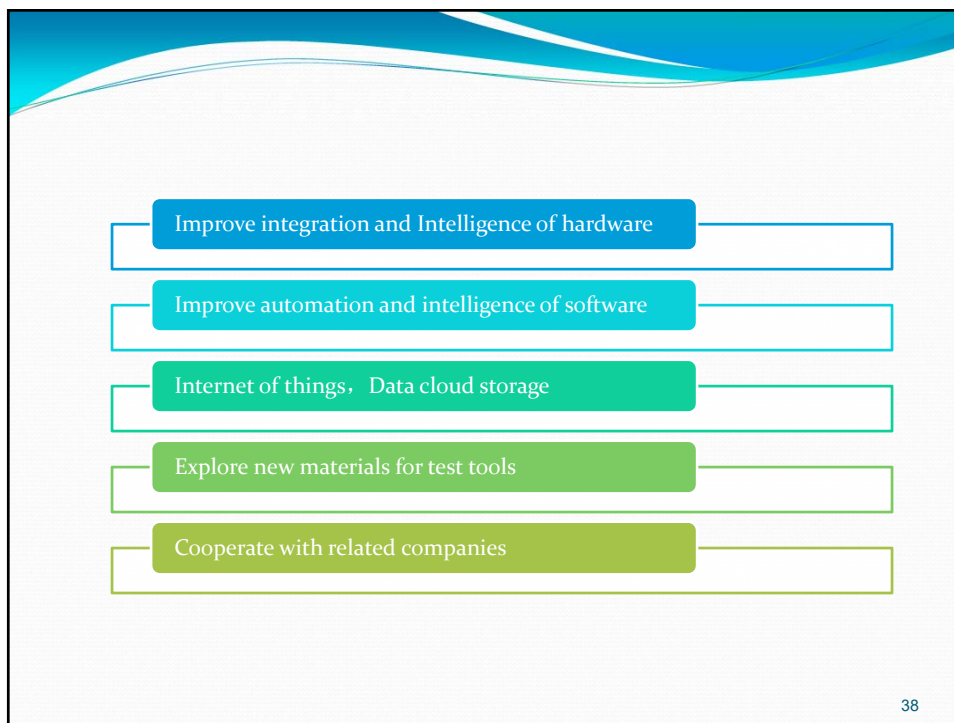
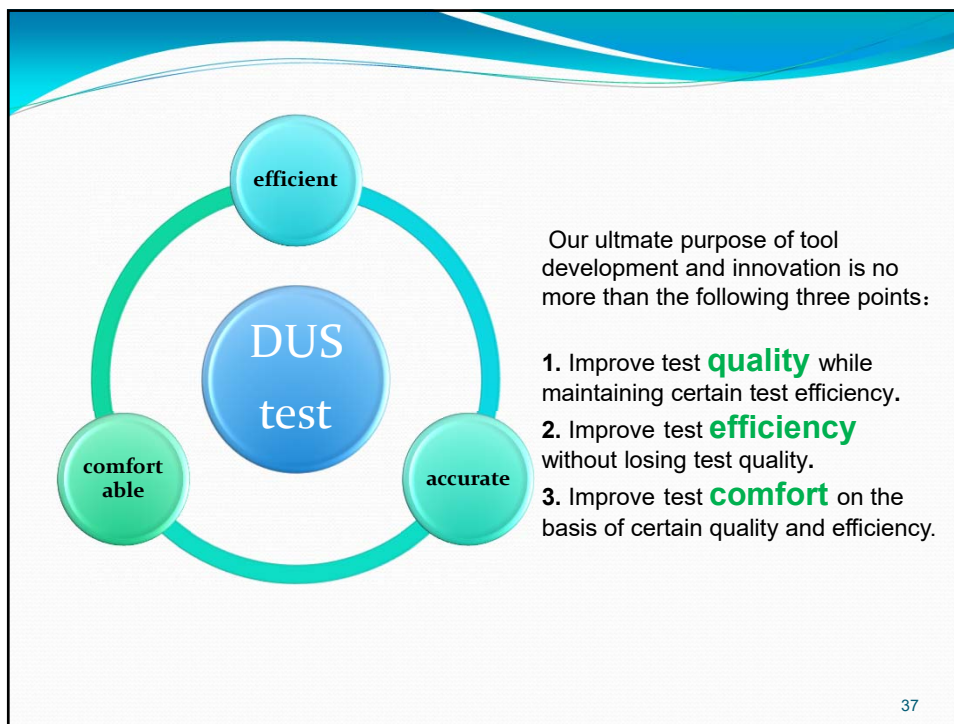
34

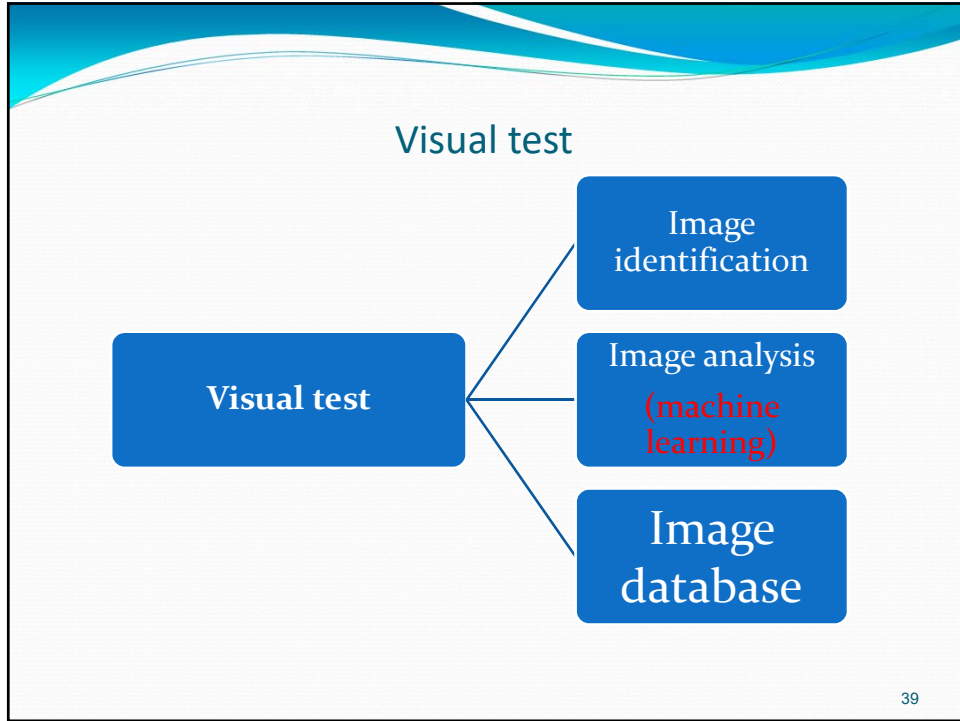
- Software is not intelligent.
- Flux is still limited.
- There are a lot of procedures lacking automation.
- We need more professional technicians, design tools and lathes.

35

4. Future Plans

36





Field electric test vehicle

Autoposition
Autopilot
Adjustable awning



41

**Thanks for your
attention!
Hope to cooperate with
you!**

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42