



Innovations to CMB's 3200 Inside Spray Machine

Euro CanTech 2016

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Sales Manager EAME



ENGINEERING

WE ENGINEER YOUR SUCCESS





**Over 160 year
history
(established 1853)**

**Building can-making
machinery for 84
years**

**2014 we saw our
50th Anniversary
On Shipley site**



CMB Shipley



350 Employees
11,000 sq meters of factory space
4,000 sq meters of office space



Recent Investment in additional Production Capacity

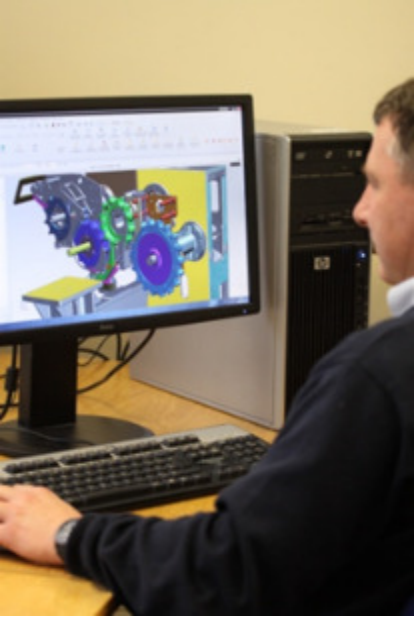


CMB Shipley

⦿ CMB: Design

⦿ CMB: Manufacture

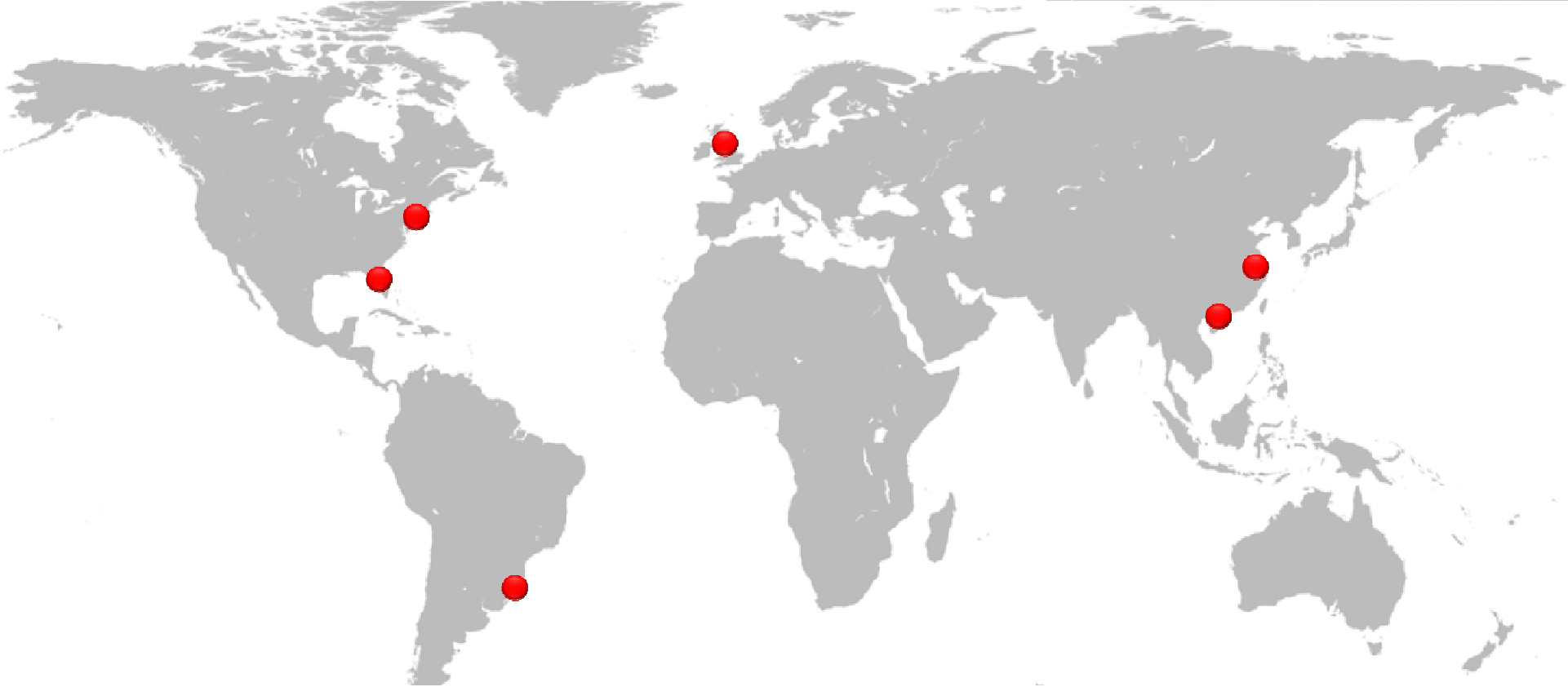
⦿ CMB: Assemble



....and CMB Test machines



Global Footprint



Locations – UK, Norwalk, Florida, Brazil, Hong Kong, Shanghai

Introducing the New 3200 REFORMAT[™] Spray Machine

Design Principles: -

Quick Change

Flexibility

Ease of Use

Low cost of Ownership

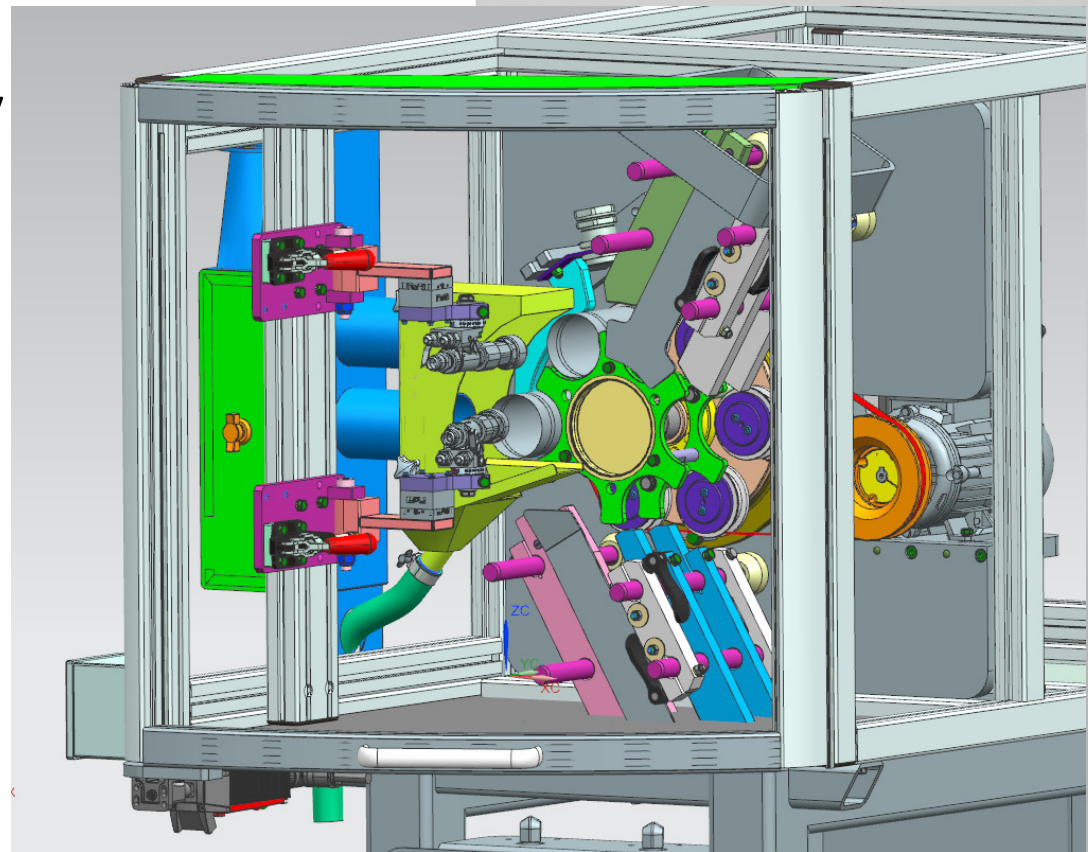


REFORMATtm Spray Machine

Quick Change / Flexibility

Gun mounts

- Simpler adjustment
- Stiffer mechanism
- Easy to clean
- No tool needed for size change

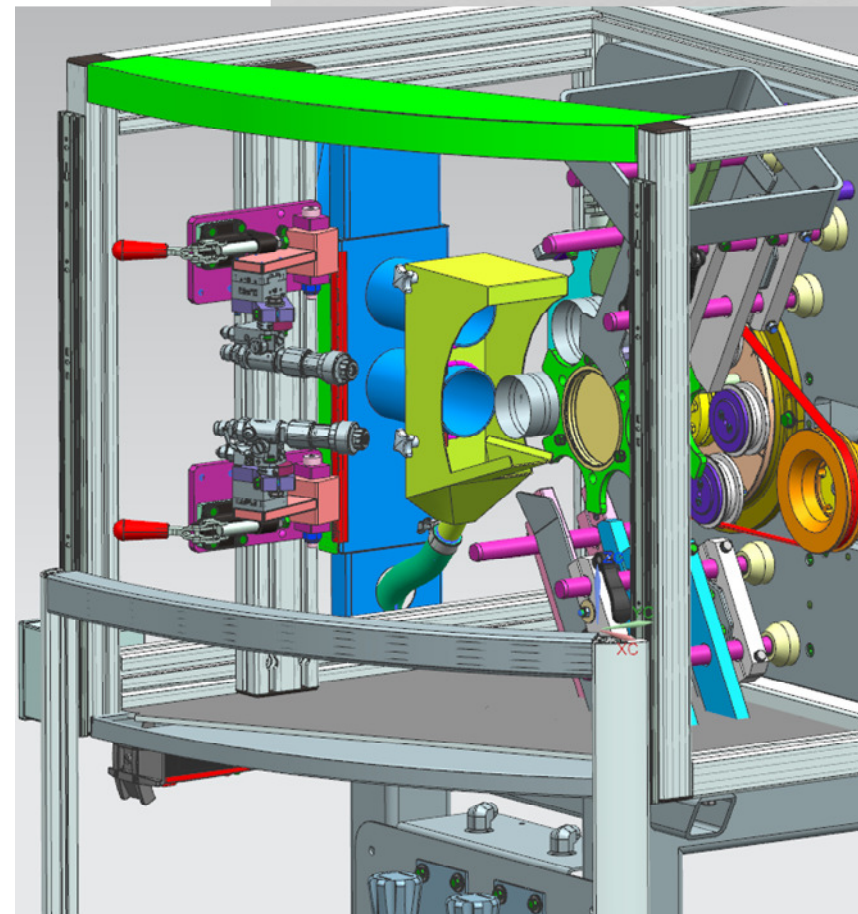


REFORMATtm Spray Machine

Quick Change / Flexibility

Guarding

- New guard opening mechanism
- Ergonomic
- Better access



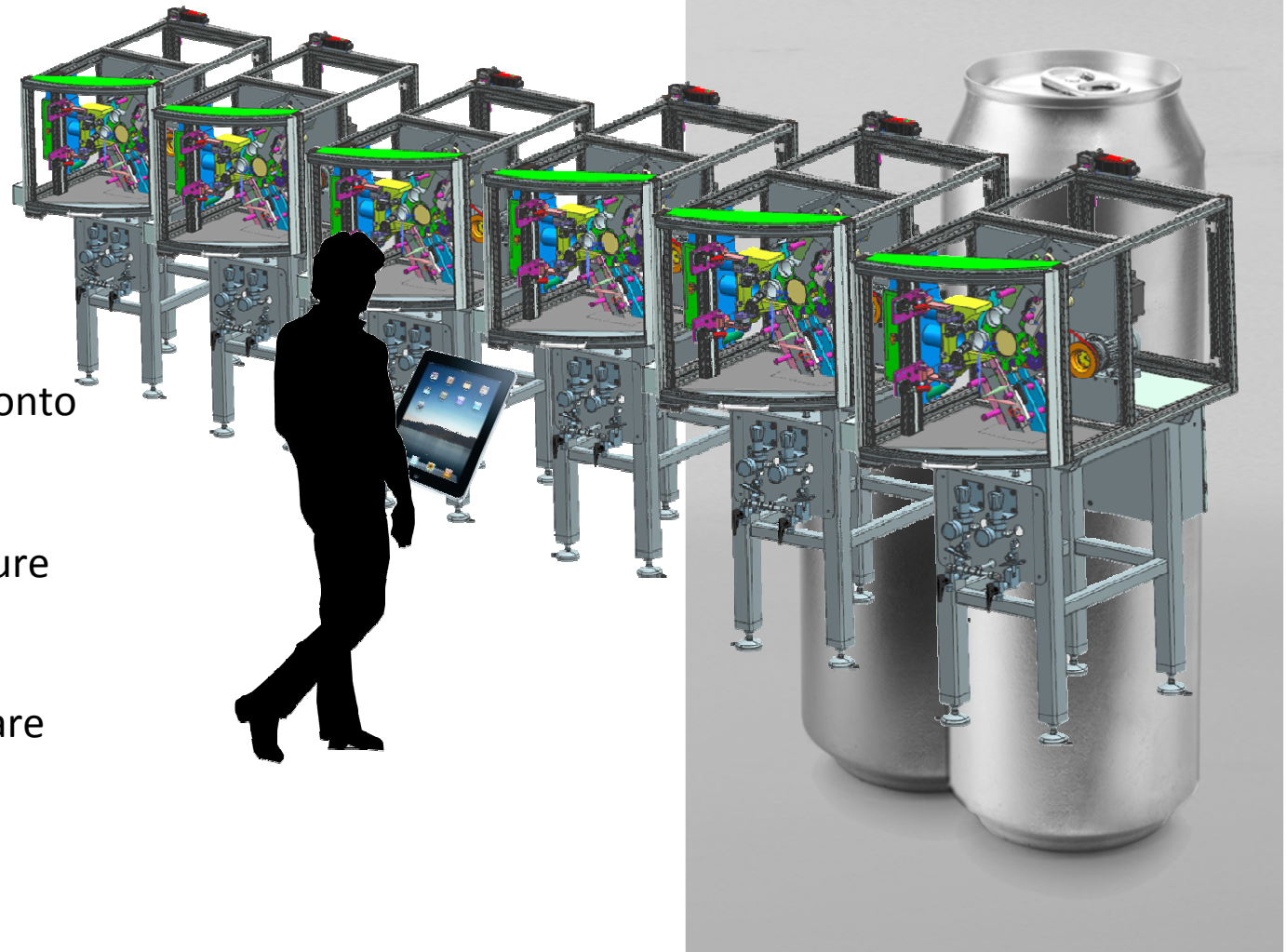
REFORMATtm Spray Machine

Ease of Use

Machine operation

- No need to install HMI's onto each spray machine
- iPad control via local secure wi-fi network

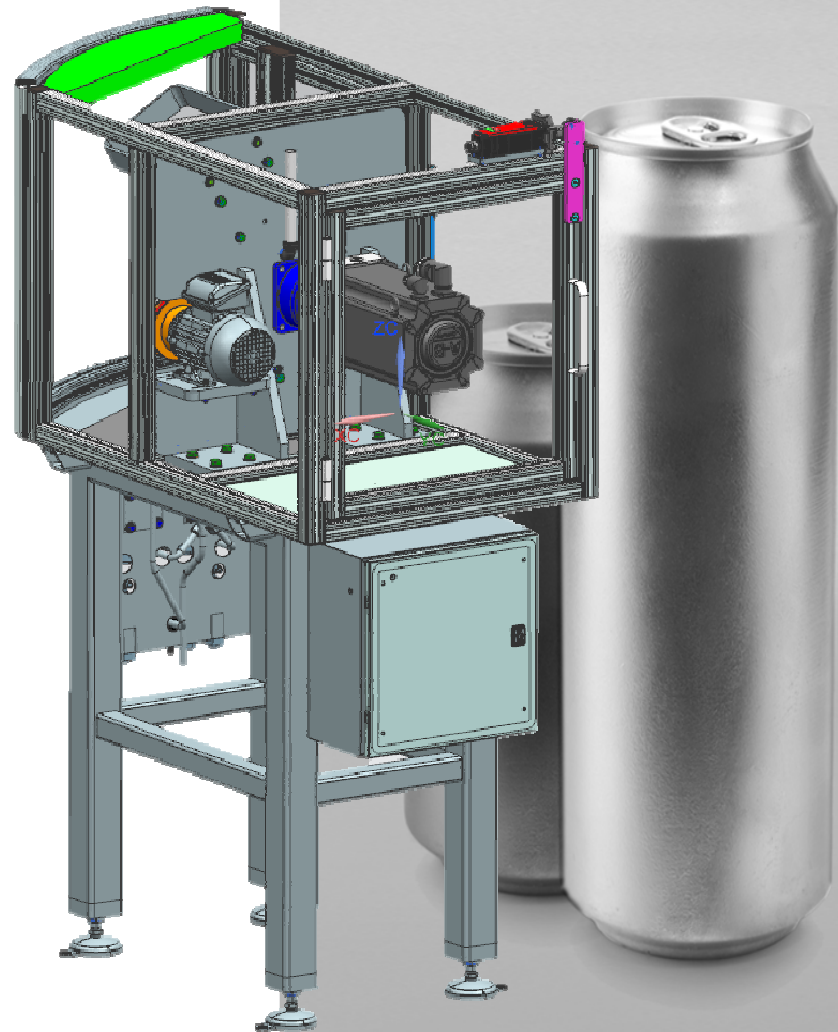
(industrial tablet devices are also available for this application)



REFORMATtm Spray Machine

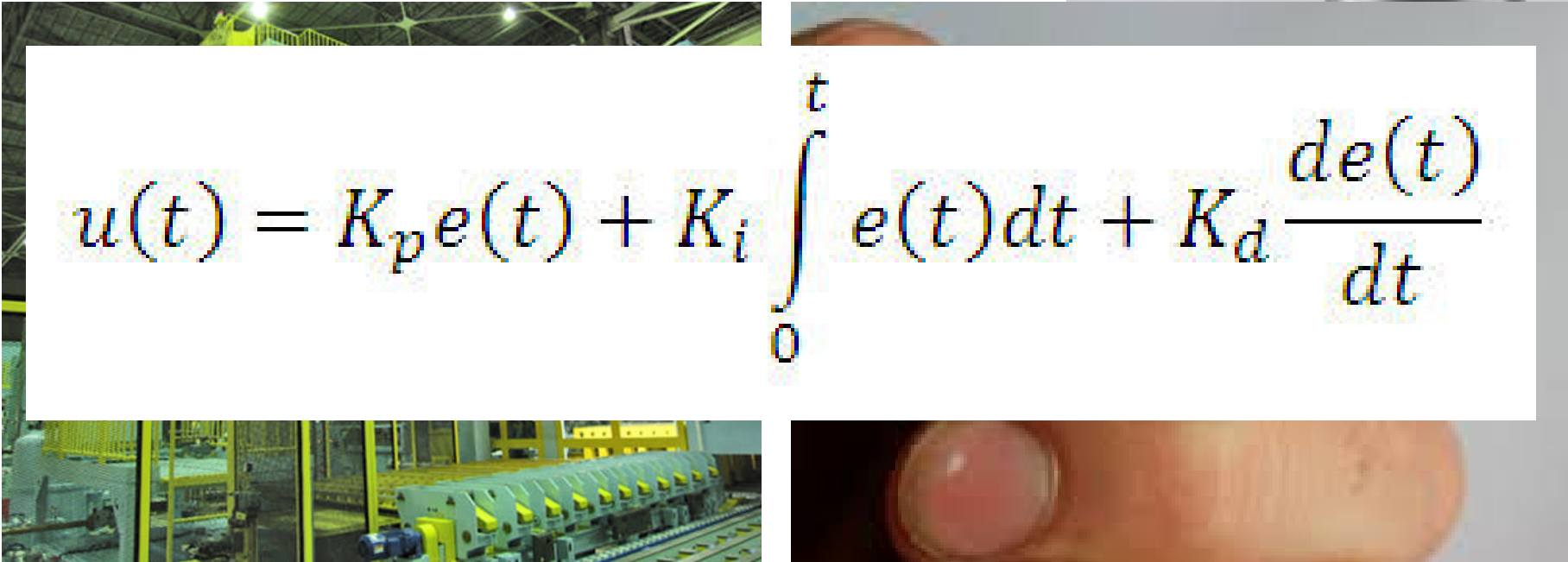
Low cost of Ownership

The existing mechanical
cambox is replaced with a
Servo (9kW) + gearbox



REFORMATtm Spray Machine

According to the IEEE, Joseph Farcoot is widely credited for the invention of the Servomotor in 1862.

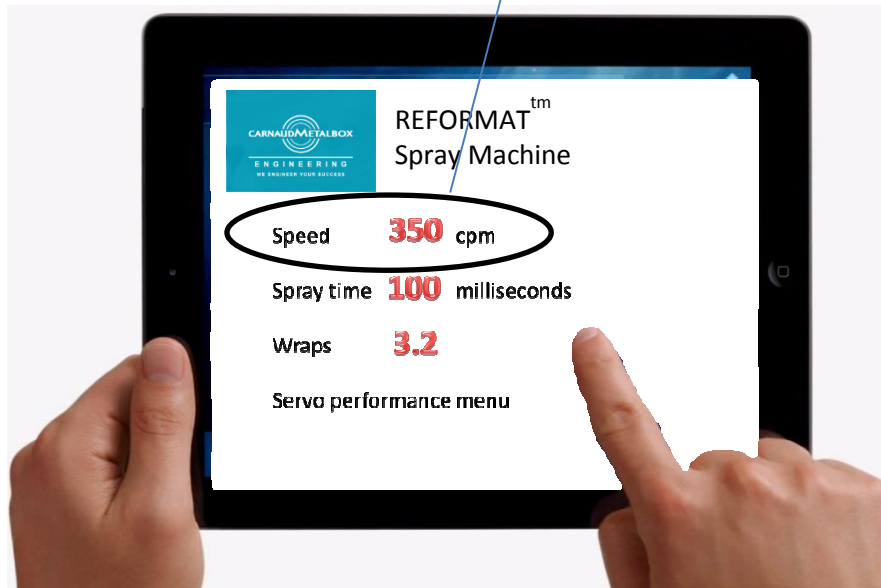

$$u(t) = K_p e(t) + K_i \int_0^t e(t) dt + K_d \frac{de(t)}{dt}$$

Servos operate using a feedback system to control position and speed

REFORMATtm Spray Machine

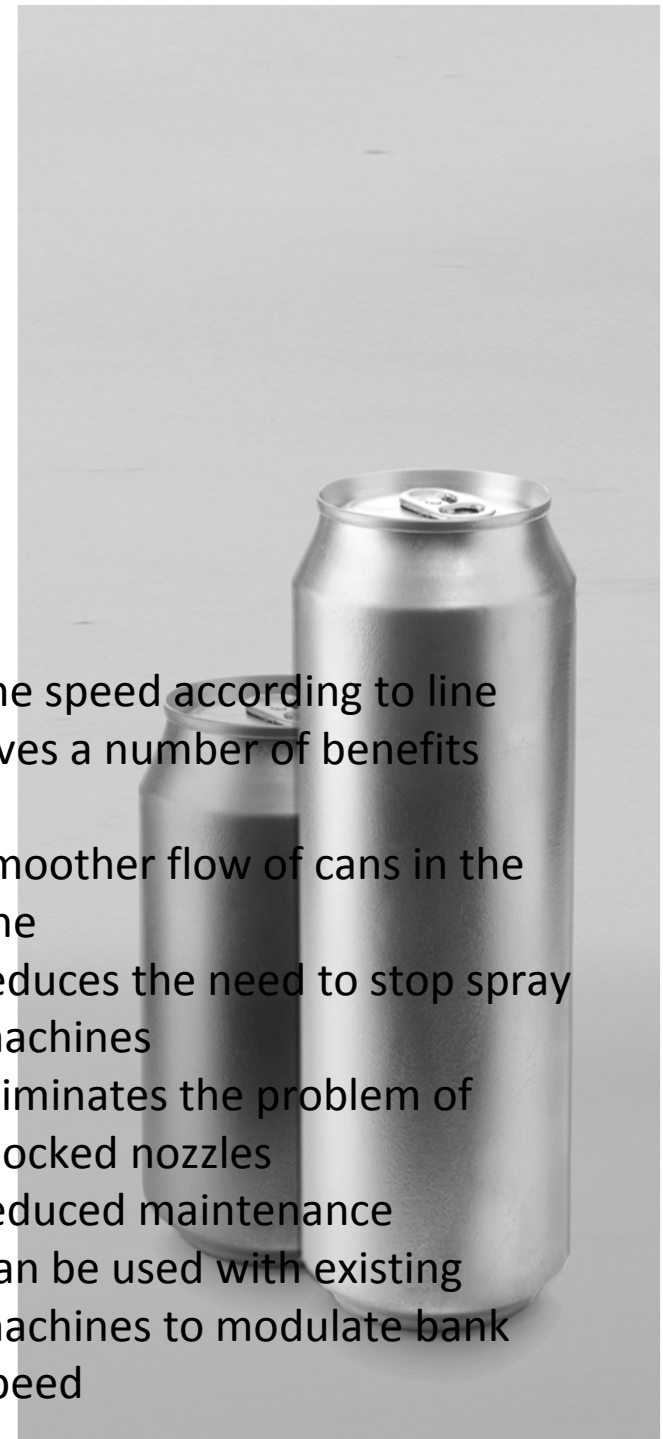
Machine speed is a **variable**.

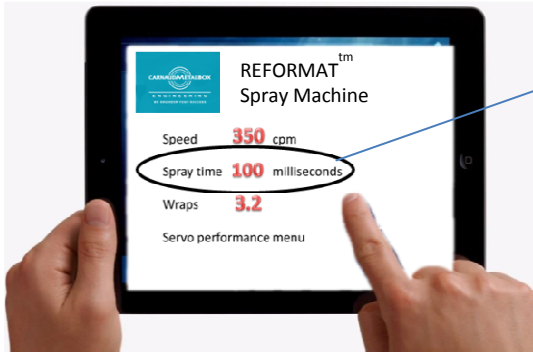
The important thing here is that if the speed is changed, the spray time dwell remains a constant



Varying the speed according to line control gives a number of benefits

- smoother flow of cans in the line
- reduces the need to stop spray machines
- eliminates the problem of blocked nozzles
- reduced maintenance
- Can be used with existing machines to modulate bank speed





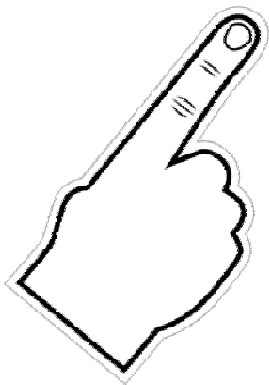
Spray time (dwell) is a **variable**, and can be altered using via the menu. User can select between set limits.

100 ms



Max Speed **350** cpm

80 ms



Max Speed **410** cpm

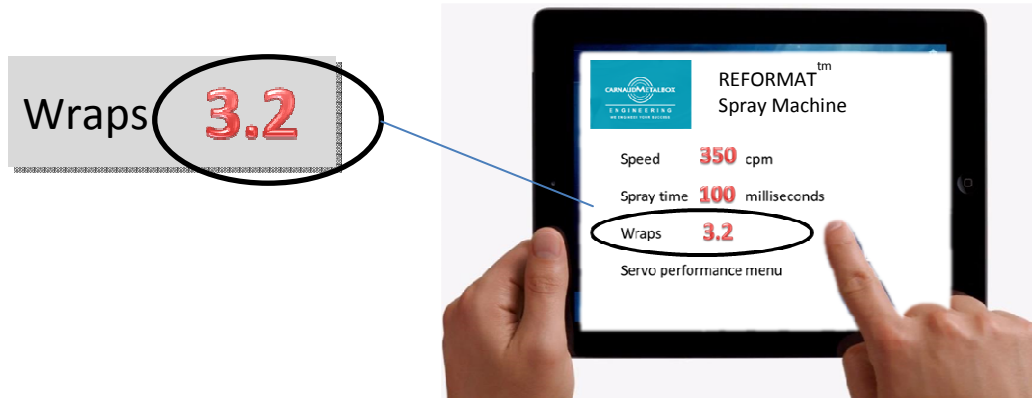
The maximum machine speed will be limited according to the spray time selected, altering in real time



REFORMATtm Spray Machine

The machine will display the ACTUAL wraps performed at gun position 1 & 2

The accuracy of the new patented sensor system allows us to refine this compared to the standard system



The number of wraps is **variable** the user can alter the spinner motor being controlled via a VF drive.



REFORMATtm Spray Machine



A Servo performance menu is available to display the *actual* displacement of the servo compared to the *theoretical*.

This demonstrates that the servo is operating correctly, and would allow users to detect if the performance starts to degrade.

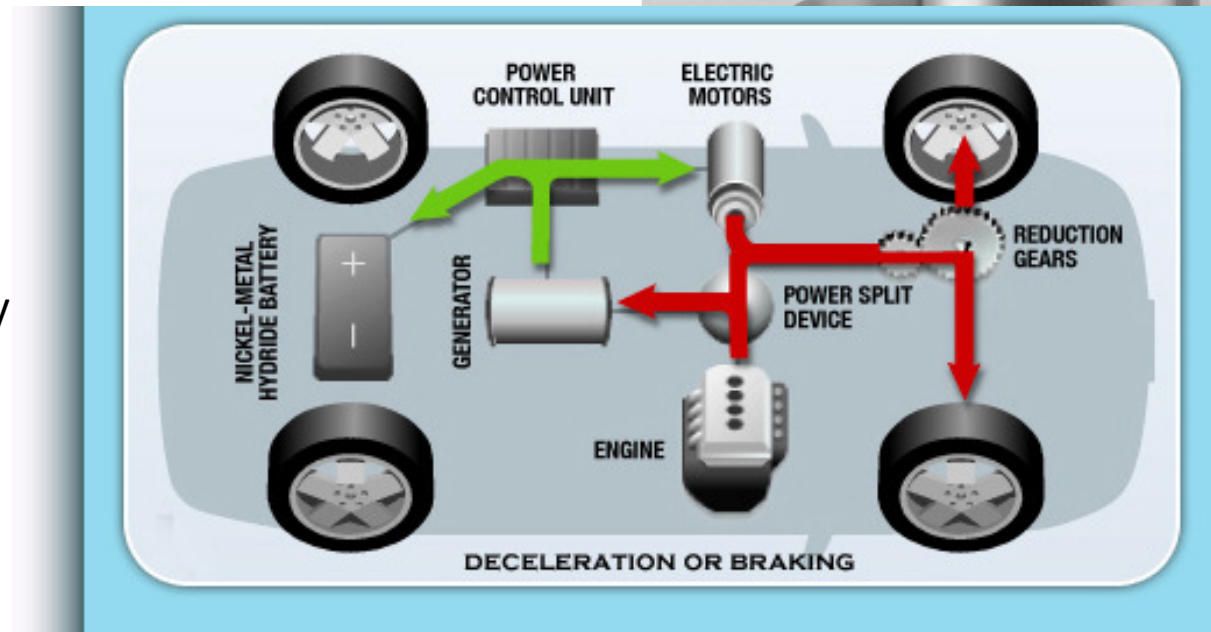


REFORMATtm Spray Machine

Low cost of Ownership

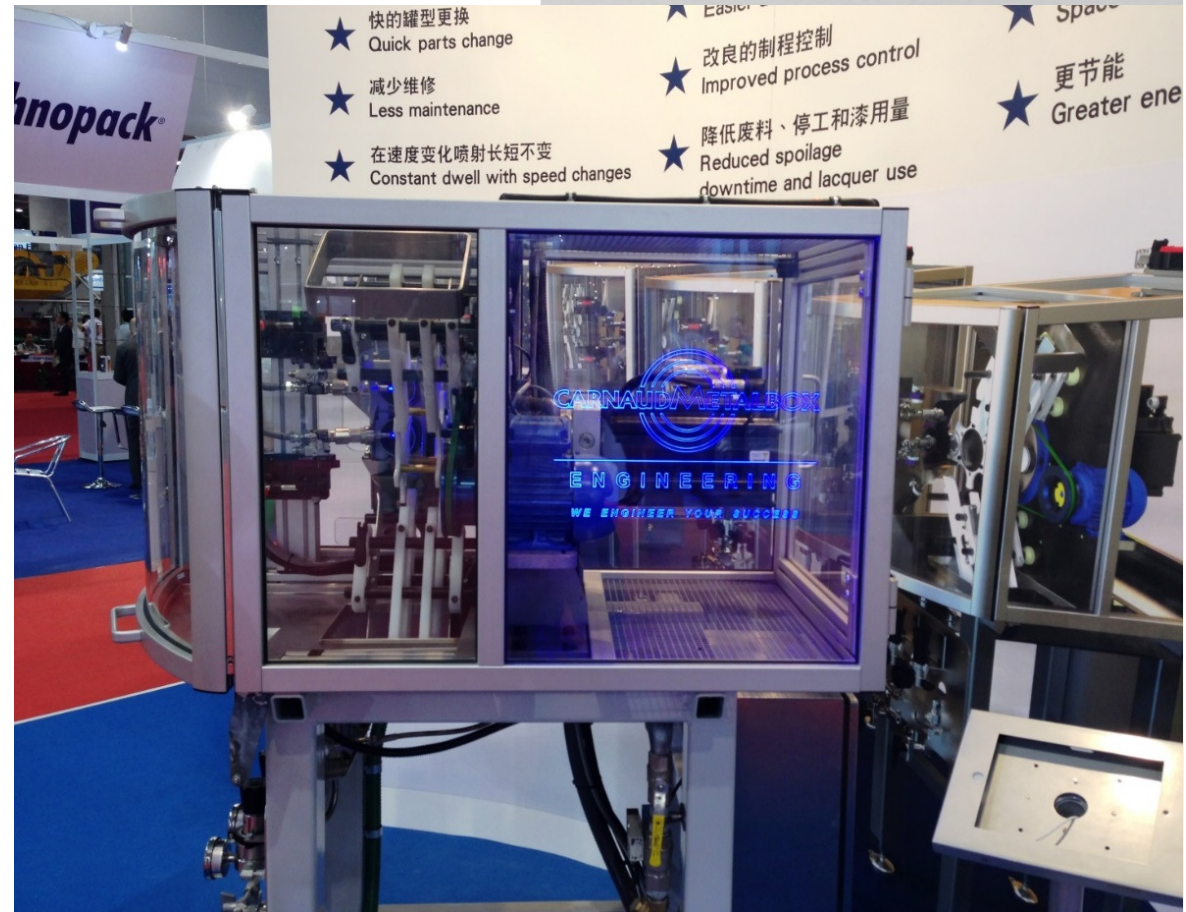
Electrical Recuperation

- Regenerative capacity
- Patent pending technology to maximise the energy efficiency of the complete spray bank



REFORMATtm Spray Machine

- Quick change for height & diameter
- Easier operator access
- Improved process control
- Reduced spoilage, downtime and lacquer use
- Greater energy efficiency
- Wireless control
- Less maintenance
- Space saving modular design



The CMB Training Academy



Congratulations to our Apprentice

World Skills Finalist in 2013 and 2015



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Presented by



спасибо
dziękuję
obrigado
thank you
gracias
merci

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teşekkür ederim
dank je
huala
maururu
sukriya
kop khun krap
grazie
arigato
takk
dakujem
merci
moichakkeram
go raibh maith agat
ευχαριστώ

tapach leat

