

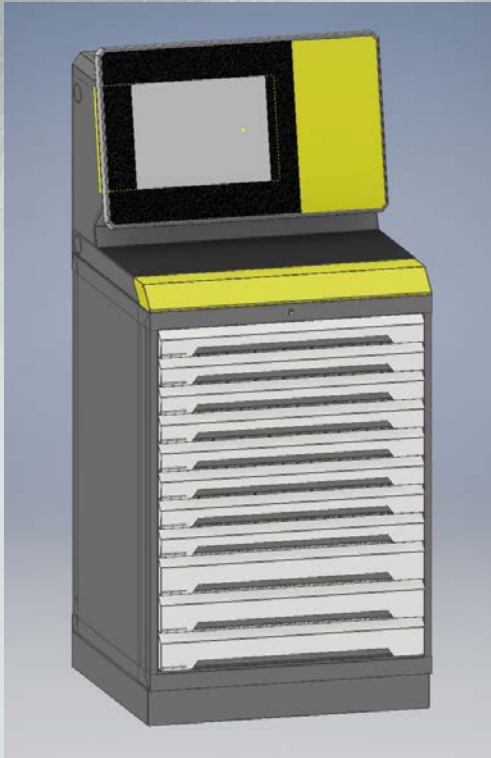
# Ready for the age of Industry 4.0

準備推動工業4.0了嗎？



管理方式進化、公司體質提升

# OUTLOOK NEW SYSTEMS 2019



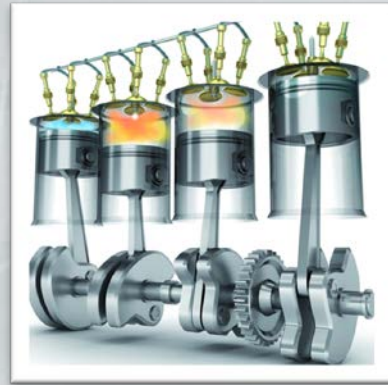
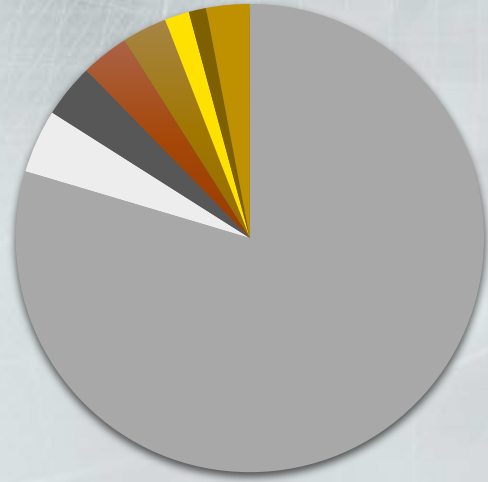
TM 226 經濟型

每月鈷領刀具採購金額達30萬，就能立即擁有它  
體驗管理方式進化所帶來的效益

- ✓ 11 開放式抽屜型式  
包含 8個高度 75mm及 3個 高度 100 mm
- ✓ 電子式上鎖
- ✓ 手動開啟抽屜、每個抽屜能承受 200 kg
- ✓ 總高度 1.7米、寬度 800 mm、深度 750 mm
- ✓ 21.5吋觸控螢幕
- ✓ Dell 電腦、搭配 WIN 10, 64 位元作業系統
- ✓ 德國鈷領 GTMS 庫存管理模組



# 庫存管理機於 各行業的應用

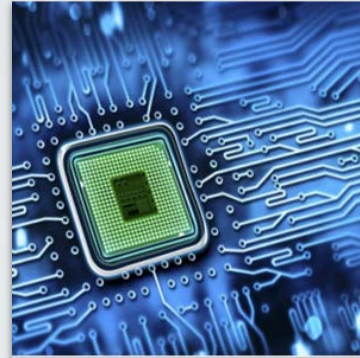


Mold and Die  
模具

Aerospace  
航天航空



Semiconductor  
半導體



- Automotive 汽車
- Textilindustry 紡織工業
- Aerospace 航天航空
- Pharmaindustry 製藥工業
- Machine Building 設備製造
- General engineering 通用工程
- Mold and Die 模具
- others 其他

# SPECIAL TM SOLUTIONS 特殊訂製

Portable  
Vending machine



移動式管理機  
(應用於法國空中巴士Airbus現場)

Interface GTMS with  
BALLUFF



結合巴魯夫 RFID晶片

Interface GTMS with  
CNC machines



GTMS庫存管理軟體與  
CNC機台連結

Interface GTMS with  
tool room

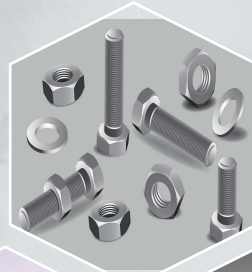
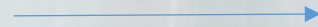


GTMS庫存管理  
軟體與工具室

WHAT ELSE CAN BE MANAGED WITH TM-VENDING MACHINE ?

## 還有什麼是庫存管理機能夠管理的

100%  
Tools



*Fasteners , Stamping Parts* 扣件, 沖壓件



*Welding Rod , Punch Pin , Tool*  
焊條, 衝針, 工具



*Measurement Tool , Hand Tool ,  
Medicine* 測量工具, 手工具, 藥品



Others

*PPE , Others* 安全帽/眼鏡/手套/ 空氣濾罐..

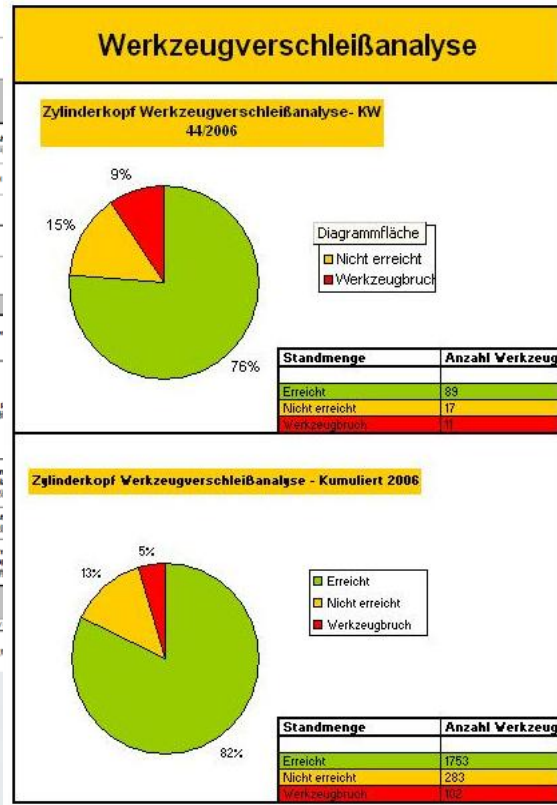
幾乎所有物品皆能納入管理

# 產生各種報表用於分析

## Standard reports:

- ✓ Top10 costs per part o/a time o/a cost center  
每個部品/成本中心耗用前10名
- ✓ Report on unscheduled tool changes  
不正常領用報表產生
- ✓ Status of agreed improvements  
改善的狀況
- ✓ Quality and performance of expensive tools (tool life) 高單價部品壽命管理報表
- ✓ Additional reports can be generated on demand  
依客戶需求訂製之報表

Mercedes-Benz		Engine Plant Integration Tech.Tools & Tooling Technical Group Daily Report						GUHRING					
BBAC Engine Plant/北京奔驰发动机工厂		发动机工厂 综合技术刀具管理生产日报						version 4: 20171113					
Attendance:	Target	00:00:00	from/起	08:30	班長/负责人	14	from/起	19:30	班長/负责人	Date	2017.11.20	Creator:	马俊
人员出勤	Actual	00:00:00	到/止	19:30	张强	14	到/止	06:30	张强				
Tool related problems 刀具相关问题													
Workshop	Line	OP/Machine	From To	Tool No.	Tool life	Tool description	Tool broken	Scrap part	Scrap part DMC	Issue description			
CH	L2	OP100.1.5	11:00	CH10017 T-3	8	铣刀 Reamer	No	1	1	加工零件及报废量超标 Third part of change tool, found the width out of tolerance.			
CB	L1	OP100	02:00	CB10002 S9 #2 541813	1700	精磨 Finish honing	No	1	127401004091730400002101	1700的零件, 粗糙度超标。 取: 1.3 break 1700 starts. roughness is 10K. 取: 1.3			



### GUHRING Tool Wear Protocol Analysis

#### DMC Cylinder Head Tool Wear Data - Week 44

art date 17.11.20

Tools Returned (Week 44)		Quantity
Total		98
Achieved		89
Not Achieved		17
Tool Breakage		11

Not Achieved	Location	Description	Reason
	Cell 07 - T 036 - 750	Oversize	
	Cell 07 - T 043 - 650	Other	material build up in flutes
	Cell 02 - T 015 - 7,750	Oversize	
	Cell 02 - T 018 - 1,250	Oversize	
	Cell 12 - T 059 - 25,000	Surface finish	
	Cell 04 - T 034 - 1,800	Undersize	
	Cell 07 - T 003 - 21,150	Other	
	Cell 12 - T 012 - 750	Machine	artis fault
	Cell 07 - T 043 - 650	Other	broke tap replaced tapping
	Cell 08 - T 026 - 2,125	Undersize	
	Cell 07 - T 004 - 3,100	Oversize	
	Cell 07 - T 036 - 750	Oversize	
	Cell 02 - T 012 - 1250	Undersize	
	Cell 12 - T 071 - 5,000	Feature out of spec	
	Cell 09 - T 051 - 300	Surface finish	
	Cell 09 - T 052 - 150	Surface finish	
	Cell 05 - T 035 - 1,125	Tool Setter	drill moved in tool holder

Tool Breakage	Location	Description	Reason
	Cell 04 - T 032 - 40,000	Other	unknown
	Cell 07 - T 017 - 350	Other	unknown
	Cell 04 - T 064 - 2,000	Machine	Machine Failure - Cause Unkn
	Cell 07 - T 017 - 350	Other	
	Cell 07 - T 017 - 350	Other	
	Cell 09 - T 050 - 1,375	Other	Bent
	Cell 04 - T 034 - 1,800	Faulty Workpiece	
	Cell 09 - T 052 - 150	Machine	R. Reamer, B. Axis Faulty
	Cell 07 - T 017 - 350	Machine	Broken Tap
	Cell 07 - T 017 - 350	Machine	
	Cell 12 - T 012 - 750	Machine	

**Conclusion - Week 44**  
 23% of Tools that have not achieved Tool Life were "Oversized"  
 18% of Tools that have not achieved Tool Life were "Undersized"  
 15% of Tool Breakages have not had reasons entered

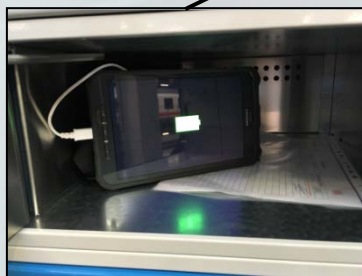
# 實際運用案例 法國空中巴士機棚



# C-Parts TM Solution



德國鐵路公司維修工具管理  
應用實例





- GMF use TM System Hardware and GTMS Quality module for maintaining measuring devices.  
應用庫存管理機及GTMS軟體用於飛機維修的量具管理。
- Additionally use GTMS Logistic module to manage hand tools like screw drivers and torque wrenches.  
應用GTMS軟體用於管理手工工具及扭力扳手。
- After successful implementation GMF consider to extend with Guhring TM-Systems for 3 further maintenance halls  
由於導入應用很成功，印尼航空決定水平展開，考慮應用於其他3個維修機棚。



新加坡航空飛機維修機組人員  
導入E化及無紙化  
使用本管理機用於iPad管理

TM526 特殊抽屜設計 存放飛機維護人員與  
機組人員使用的iPad 可同時充電



# 德國鈷領庫存管理機 其他種類

TM 326



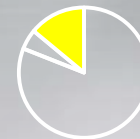
- ✓ **Guhring's bestseller** 最暢銷機型
- ✓ most flexible solution 最彈性運用
- ✓ Each drawer can carry up to 200kgs  
每個抽屜可以承受**200**公斤

TM 426



- ✓ **Comfort solution** 舒適解決方案
- ✓ Single insert dispensing system
- ✓ 100% control 百分百管控
- ✓ Dispensing acc. FiFo 先進先出管理

TM 526



- ✓ **Premium solution** 高級解決方案
- ✓ Suitable for high tool turnover 適合高消耗金額
- ✓ 100% control & return of dull tools 百分百管控
- ✓ Dispensing acc. FiFo 先進先出管理

# TM 326



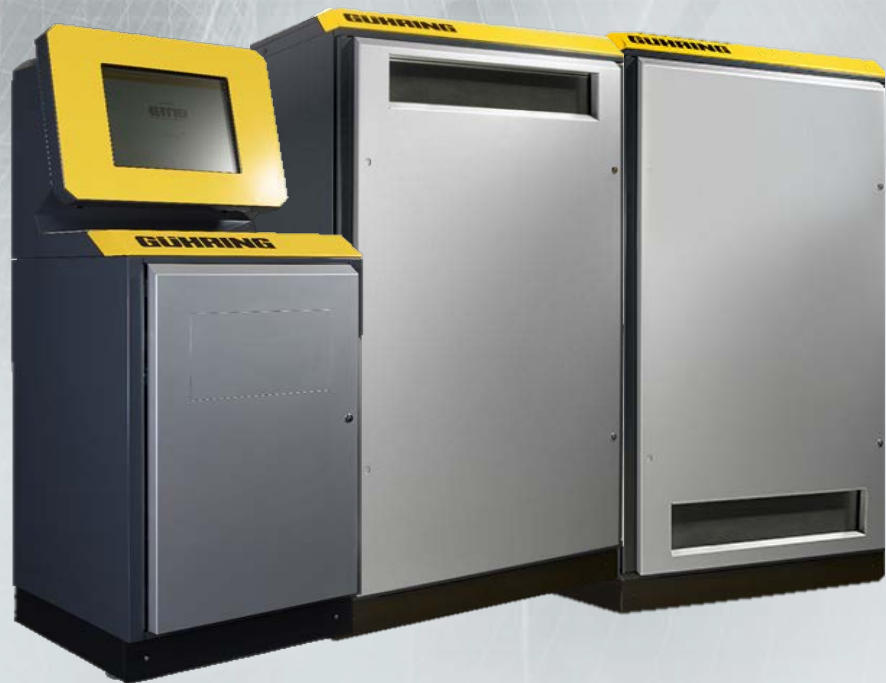
✓ Different compartment sets available  
可提供不同的區隔大小組合

Number Compartments per drawer	Internal dimensions Per compartment width x depth x height
8	W440 x D125 x H50, H75, H125, H175, H225
12	W440 x D 75 x H50, H75, H125, H175, H225
16	W220 x D125 x H50, H75, H125, H175, H225
18	W146 x D175 x H50, H75, H125, H175, H225
20	W220 x D 95 x H50, H75, H125, H175, H225
24	W220 x D 75 x H50, H75, H125, H175, H225
24	W146 x D125 x H50, H75, H125, H175, H225
32	W109 x D125 x H50, H75, H125, H175, H225
36	W146 x D 75 x H50, H75, H125, H175, H225
40	W109 x D 95 x H50, H75, H125, H175, H225
48	W109 x D 75 x H50, H75, H125, H175, H225

- ✓ variable compartments and dimensions available
- ✓ 24 hours tool availability 24小時服務不間斷
- ✓ e-Service function via Internet 網路E化服務功能



## TM 426 (SPIRAL) 螺旋式



- Spiral modules with 60 – 70 – 80 spirals 有 60 – 70 – 80 的螺旋可供選擇
- 100% withdrawal control 百分之百領用管控
- With & without lift system 可提供上方取件系統

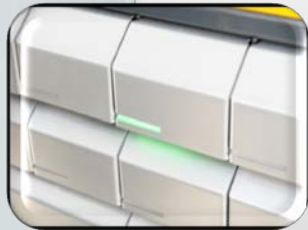


# TM 526 小抽屜間格式



HEIGHT OF DRAWERS	WIDTH OF DRAWERS	NUMBER OF DRAWERS	
42 mm	8x 50 mm	16	30,58 mm
60 mm	5x 110 mm	8	64,91 mm
113 mm	4x 150 mm	4	133,56 mm
186 mm	3x 215 mm	2	270,87 mm
258 mm	2x 350 mm	1	545,50 mm

✓ Unlocked drawer is shown with LED  
LED燈解鎖提示



- 100% control 百分之百管控
- Drawer unlocked only as wide as tools were previously booked in the software  
抽屜只會解鎖到要領用的間格，無法全部拉開

# TM-VENDING MACHINES SALES DEVELOPMENT

Basic units accumulated    Basic units delivered

## 庫存管理機發展



# 庫存管理機系統 應用於全世界 各大企業相繼採用



# 合作模式

## 1. OWN RESPONSIBILITY 客戶購買 自行管理

- ✓ Guhring supplies the vending machine
- ✓ customer use the vending machine in own responsibility
- ✓ Cost transparency by several analysis + statistics
- ✓ No tool wasting or black stocks

## 2. CONSIGNMENT STOCK 寄庫管理 CPT

- ✓ Vending machine will provided free of charge 鈔領免費提供使用
- ✓ Guhring tools in the vending machine 必須使用鈔領刀具
- ✓ No tied capital on the tool stock 資金不會被庫存綁住
- ✓ Customer pays only withdrawn tools 領用付費

## 3. TOOL MANAGEMENT 刀具管理 CPP

- ✓ Customer defines which tool from which manufacturer he wants to provided 客戶決定刀具的供應商
- ✓ Customer responsible for negotiations of pricing 最後價格由客戶決定
- ✓ New and Regrinding tools charged separately 新刀與修磨刀分開
- ✓ Customer pays by production parts quantity 工件生產數量付費



# 期待為您服務

# GÜHRING

Thank you for your attention.

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