MAGIC PAINTER

BAE SYSTEMS

PAINTING CARC ON MILITARY VEHICLES, BAE SYSTEMS, YORK, PA, USA

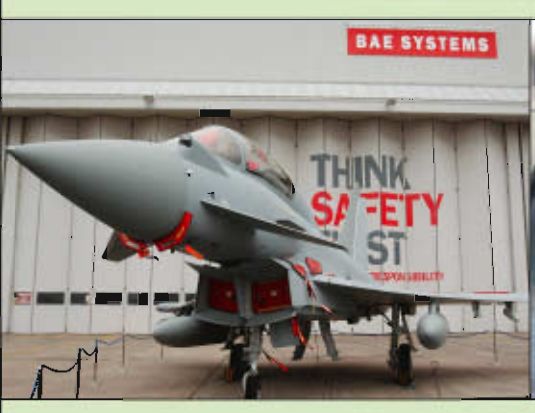
SUCCESS STORY

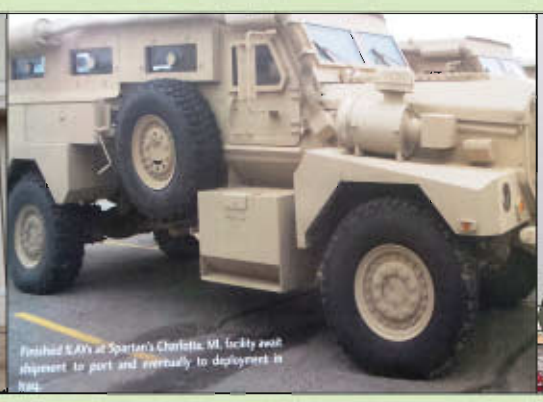
Chemical Agent Resistant Coatings (CARCs) are specified for all vehicles, aircrafts and ground support equipment to protect against the possible chemical warfare. To withstand the degradation caused by cleaning and decontamination procedures after a chemical attack, CARC top coats keep radioactive, biological and chemical contamination from penetrating the coating and the substrate.

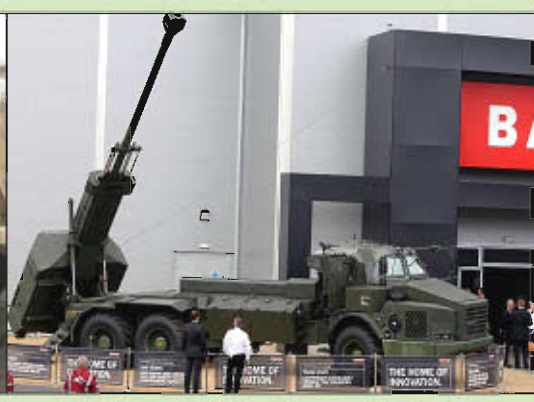
BAE Systems (York, PA) built several armoured vehicles (ILAV – Iraqi Light Armored Vehicles) and CARC is applied 3-4 MIL dry film thickness with lowest VOC. These are applied in a crossdraft paint booth 64x20x15 feet with a curing cycle 120 degree Fahrenheit. Magic Painter is used to spray these paints at very low pressure combined with very high airflow. This avoids sudden expansion of air coming out of conventional compressed air powered guns. The result is significant reduction in paint fog, bouncing back and minimal paint wastage. The hot dry air (130 – 190 Fahrenheit) supplied by Magic Painter, helps to speedup the evaporation of the painted surface to shorter drying time compared to the conventional compressed powered HVLP guns which was used earlier. The paint savings were significant (reduced to 5 gallon from 8 gallon). The significant reduction in the paint fog also makes the painters comfortable.

The CARC used is a single component aliphatic polyurethane that requires no catalyst hence has much longer pot life. The ILAVs undergo 10 mile road test, break testing and stringent Government inspection before they are accepted for service. According to one defence analyst there has been no deaths in the ILAV since its deployment in August 2006.

Magic Painter is used worldwide by several customers to paint defence machinery







MAGIC PAINTER

PAINTING OF CELL PHONES, LAPTOPS COMPUTERS, CD PLAYERS

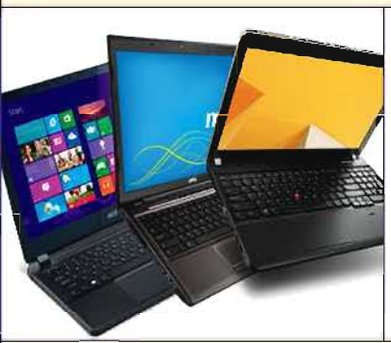
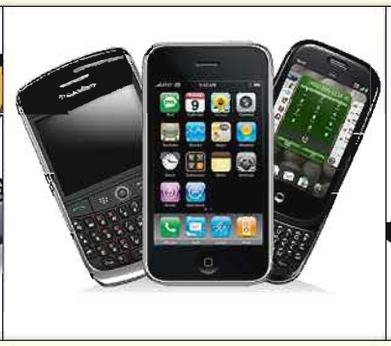
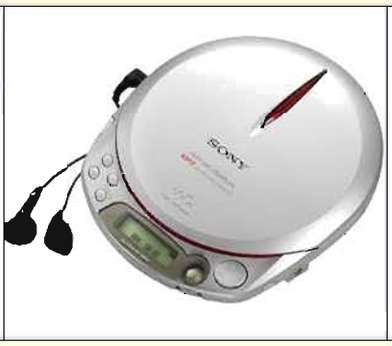
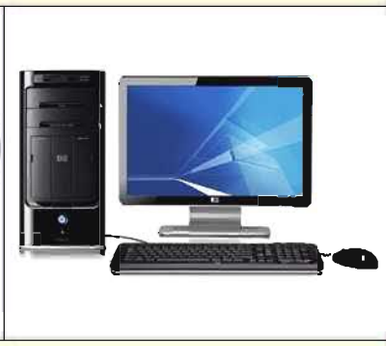
SUCCESS STORY

"Turn-off all portable electronic devices until the Captain has turned off the fasten seat belt sign" – If you are a frequent flyer you are familiar with such an announcements.

Why did airlines make these announcements? The reason is EMI &RFI, or Electro Magnetic Interference and Radio Frequency Interference. When several electronic devices are in close proximity to each other including the electronic devices of the plane it can interfere. Shielding is the technique used to control this interference. Using conductive paints is a relatively inexpensive method for EMI & RFI shielding among other methods. However the paints used are expensive.

Cybershield of Georgia, inc (Canton, GA USA) is a high end job shop that shields a variety of plastic components for Cell phones, radar guns, computers and a variety of other electronics. They use four robotic cells and eight paint booths on a conveyorized line using Magic Painter. With conventional compressed air spray Guns the paint is blasted by high velocity air, creating excessive turbulence resulting in excessive paint overspray wastages. Cybershield uses Magic Painter having a soft and slow airflow using an air pressure of 3.5 to 6 PSI. You cant even see the paint in the spray booth when the guns are spraying

This resulted in huge paint savings, power savings, less VOC emission, reduced paint booth filter replacement cost etc., Other important advantage is the improved finish, paint penetration into corners and recessed areas because of soft airflow and no paint bounce back resulting in even coating.

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MAGIC PAINTER

HUGHES

HUGHES AIRCRAFT COMPANY

HUGHES AIRCRAFT COMPANY
Glendale, CA, USA

SUCCESS STORY

Hughes Aircraft Company published a report ("Final Report, Volume III-Low Cost Transfer Efficient Paint Spray Equipment"). This document reports their findings based on an extended evaluation of some 15 different manual spray guns conducted with 6 different types of aerospace coatings in common usage. The project was jointly funded by Hughes and the South Coast Air Quality Management District (SCAQMD). The report states Magic Painter produced an overall transfer efficiency (T.E.) of 90%. The Hughes researchers also evaluated the various atomizers based upon the quality of finish they produced with each of the test paints. Only one brand of HVLP type of gun produced finishes even close to those produced by the Magic Painter. Unfortunately, the second place gun's Transfer Efficiency was only 65%.

Apart from paint savings it is also established that there is a huge savings in power compared to the compressed air systems. It also means less tonnage of V.O.C emissions for carrying out the same painting jobs. A Magic Painter can feed 4-6 painting guns depending on paint and the entire installation cost should be compared with compressor, oil and water separator, refrigerated air dryer

It is proved beyond doubt that Magic Painter is probably one of the best paint application system available to spray aero space coatings both in terms of savings and the finish it can produce.

Table# 1 illustrates the difference in fluid flow rates between the top two Gun Systems, as determined by the Hughes Aircraft tests, using the T.E. data published in their Report. It clearly presents the significant difference in the amount of paint each gun must spray to apply the same quantity of coating to a given substrate.

Desired Paint on Substrate Oz/min	Amount of Paint Required by Magic Painter Oz/min	Amount of Paint Required by other brand Oz/min
3.0	3.3	4.6
3.5	3.9	5.4
4.0	4.4	6.2
4.5	6.0	6.9
5.0	5.6	7.7
5.5	6.1	8.5
6.0	6.7	9.2
6.5	7.2	10.0
7.0	7.8	10.8
7.5	8.3	11.5
8.0	8.9	12.3

This tremendous reduction in coatings wasted as overspray has a double pay back. Not only is the cost of the wasted paint eliminated, but also the cost of collecting and disposing of excessive paint overspray is eliminated.

For copy of this complete Hughes Aircraft Report write to : Magic Painter, 30850, Industrial Road, Livonia, MI 48150.

Subsequently many Aerospace companies have used magic painter to paint Aerospace parts.

MAGIC PAINTER

NUMMI
New United Motor Manufacturing, Inc.

AUTOMOTIVE PAINTING AT UNITED MOTOR MANUFACTURING (TOYOTA)

SUCCESS STORY

United motor at Fremont CA, USA at their Nummi plant have conducted extensive trials with various automotive paints. Initial test showed that all interior colours for metallic base coats could be sprayed effectively. But for solid base coats (red, white & blue) the parameters of the Magic Painter have to be altered to deliver optimum performance. The spray application has been examined by Nummi inspectors along with Dupont paint representatives. All of them given their positive feedback with no quality problems.

The spray application time is not changed when compared to the existing method. However considerable reduction in fluid delivery (46%) is observed. The results are tabulated in the below chart.

OPERATING CONDITIONS FOR MAGIC PAINTER SPRAY EQUIPMENT

COLOUR	FLUID FLOW: CC PER MINUTE		Fluid Usage		% Savings with Magic Painter
	Magic Painter	Current Equipment	Magic Painter	Current Equipment	
Red 3H4	192cc	360cc	140cc	259cc	46 %
S.Red 3ES	280cc	488cc	204cc	351cc	42 %
Biege 4H6	264cc	360cc	193cc	359cc	26 %
Brown L46	168cc	440cc	123cc	317cc	61 %
L.Blue L82	232cc	400cc	169cc	288cc	42 %
M.Gray L13	120cc	332cc	88cc	239cc	64 %
D.Blue L81	200cc	384cc	146cc	276cc	48 %
Silver 164	184cc	348cc	134cc	251cc	47 %
D.Gray 168	240cc	396cc	175cc	285cc	39 %

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