By almost every market barometer available, the U.S. economy is in dire straits. Housing starts remain stagnant, the Department of Agriculture is predicting a 4.5-percent increase in food prices this year, the U.S. dollar has only recently begun to gain on the euro and the nationwide average for jet-A is about $6 a gallon.

On the other hand, the business aviation industry and the cabin completion and refurbishment business, have never been stronger. What is going on?

The General Aviation Manufacturers Association (GAMA) earlier this year reported a new-aircraft backlog valued at a record $58 billion. At the same time, manufacturers are selling airplanes into 2012, and well beyond in some cases. “A lot of it is driven by the international marketplace [which] suggests that our industry will be able to power through any softness in the U.S. economy,” said a GAMA source.

“There’s no doubt that the backlog of new airplanes is driving sales of used airplanes, which is in turn keeping my shop pretty busy,” said Randy Keeker, president of Indianapolis Jet Center, a medium-size independent completion and refurbishment facility. Keeker was being modest. In March he delivered nine Challengers that had been in for a combination of maintenance and refurbishment, and as of early May his shop was doing a Boeing 737 and a Canadair Regional Jet (CRJ200) major cabin reconfiguration, as well as two Challenger 604 refurbishments. And, he added, “I always have three or four Learjets in here.”

NBAA sees little sign that the faltering economy has affected business aviation. According to numbers provided to the association by research data specialist JetNet, the number of business aircraft operators grew from 17,178 in 2006 to 17,993 in 2007, and the worldwide corporate aircraft fleet topped out at 27,130 airplanes.

And if the forecasts released last year and early this year are accurate, it is only going to get better. Earlier this year major industry analysts, with a few exceptions, all seemed to be forecasting from the same remarkably bright globe.

Citing high corporate profits, business globalization, high commodity prices, growth of emerging markets and a weak dollar, the Teal Group’s 18th annual business jet overview projects a 10-year demand for 14,289 business jets valued at $218 billion. That is almost double the production of 6,958 business jets worth $124 million in the previous 10-year period.

Some call converted Canadair Regional Jets (CRJ) the poor man’s Gulfstream, but you won’t hear that from the ready pool of buyers.

The 50-passenger CRJ200s consigned to retirement are now finding their way into refurbishment centers and thence into new roles as large-cabin private and corporate transportation—and for good reasons.

Perhaps the most important is cost. A relatively low-time CRJ200 can be had for about $10 million. And even after adding another $7 million for maintenance, an engine upgrade and an executive interior, the price tag is considerably less than that of a new Bombardier Challenger 850 at about $29 million, or an Embraer Legacy 600 at approximately $26 million.

At about 3,000 nm with auxiliary tanks, the range of an executive CRJ200 takes it out of the running against the 6,000-nm legs of a circa-$50 million Global Express XRS or Gulfstream G550. The $30 million G350 could perhaps be regarded as a new but higher-priced alternative to an executive CRJ.

Also to be considered is the fact that an available delivery slot for a new Gulfstream, Challenger 850 or Legacy 600 might well be sometime in the next decade. From purchase to delivery of a refurbished executive CRJ200, the cycle is typically less than a year.

With demand growing for CRJ200 conversions, independent completion and refurbishment specialists are throwing elbows to claim the lion’s share of the market. Indianapolis Jet Center is doing them. So is Fokker Services in the Netherlands; Flying Colours in Canada to do the maintenance work on its first CRJ200 project before moving the airplane to Flying Colours and Action Aviation in the UK for cabin outfitting.

Refurbishment Centers Cashing In

MJet of Montreal has completed work on its first CRJ200 conversion for charter operator Corpac Canada and was scheduled to deliver the airplane last month.

No less important than the MJet cabin is Tailwind Capital and its partner Global Principal Finance. In the United Arab Emirates, Dubai-based Project Phoenix is using Skyservice at Toronto Pearson Airport in Canada to do the maintenance work on its first CRJ200 project before moving the airplane to Flying Colours and Action Aviation in the UK for cabin outfitting.

At the European Business Aviation Convention & Exhibition in May, Tailwind announced that the first CRJ ExecLiner from Flying Colours was delivered to India’s Club One Air last month.
Rolls-Royce’s 20-year prognostication forecasts 39,000 business jets (equating to 19,500 aircraft a decade). Honeywell has a slightly less bullish outlook, predicting a market for 15,000 business jets over the next 10 years.

While decidedly optimistic, Teal sees some “very preliminary” signs of a softening market and resulting dip after 2010. Rolls-Royce predicts a market dip starting around 2014, but suggests a return to 2014 delivery rates by 2016.

Bombardier offered an optimistic 10-year delivery forecast but a somewhat more subdued short-term outlook in terms of orders. Supported by a healthy backlog, deliveries will double those of the past equivalent period, said the Canadian manufacturer. However, the company expects a “cyclical” decrease in orders over the next two years.

The helicopter industry came away from the Heli-Expo 2008 trade show on a market high that had nothing to do with the flow of champagne. Show organizers at the Helicopter Association International had expected some 14,000 visitors but logged a total of 17,536, well over the previous record of 16,628, logged in 2005. More remarkable were orders booked at the show totaling nearly $2 billion.

West Star Aviation completed this refurbishment of a Falcon 50 for a customer this year.

At Heli-Expo 2008, both Honeywell and Rolls-Royce were predicting continued growth in all turbine helicopter market sectors through 2016, with demand intensifying over the next half-decade. Honeywell’s five-year forecast, covering only civil turbine-powered helicopters, forecasts deliveries of 4,650 ships through 2012. Rolls-Royce’s 10-year outlook predicts deliveries of 9,095 civil helicopters through 2017.

The projections of deliveries for the next 10 years show an industry operating at levels approaching capacity, said Ken Roberts, acting president of Rolls-Royce’s helicopter engines division.

For Europe alone, “The growth of business aviation... looks set to continue for the foreseeable future, with the number of jets rising from 1,900 today to around 4,000 by 2017,” according to a recent Eurocontrol analysis released in May. The study also forecast that by 2017, the number of business flights in the European Union would be approximately 4,300 a day.

Planned activity in the charter and fractional ownership market segments appears to reflect the forecasts, though perhaps with some crossed fingers. The past half-decade has seen major changes in the charter market with such innovations as card membership programs and online charter brokers, and at least a dozen variations on those strategies.

According to one charter insider, if there has been anything impeding growth in the charter industry it’s the FAA. “Whether it’s simple bureaucratic lethargy or an intentional slowdown as a plan to force Congress to a much-needed budget increase, they’re not acting as quickly as in the past on requests for aircraft Part 135 certification.

“To a large extent, the charter industry is dependent on the FAA’s willingness to move ahead on charter certification requests, and the fact is, it’s taking months to get an approval for an aircraft,” he said.

Some assert that the granting of Part 135 approvals is linked directly to the new A008 Operational Control Specification. The new OpSpec, said Washington, D.C.-based aviation attorney Gary Garofalo, has posed “significant challenges” for the charter industry. At the same time, said an Air Charter Guide source, “It’s certainly not because fewer people are trying to get into the business.”

A SHIFTING GLOBAL MARKET PROVIDES INDUSTRY STABILITY

There is no doubt that new and used aircraft sales are the driving force behind completion and refurbishment work, respectively. And many in the industry point to rapidly expanding international demand for business jets and private jet transportation as a major factor in reducing the impact of a U.S. economic downturn. • According to Bombardier, “At least half of our sales now are coming from outside the U.S.”

• Last year, Dassault noted that for the first time more than 50 percent of its sales were coming from customers outside the U.S.

• Gulfstream said that this year, for the first time, international sales (accounting for 53 percent of the company’s business) are exceeding domestic North American sales. “And that’s in an environment in which our North American sales rose 50 percent,” said a spokesman.

Those OEM representatives willing to speculate are now saying that this year, the number of sales to customers outside the U.S. will approach 70 percent.

“Let’s just say that the current exchange rates make maintenance. Operating costs (including debt) are about $2,000 less than those of business jets of comparable cabin size. The bottom line, according to Caruso, is that the converted CRJ200 is a “win-win airplane” for an owner who wants a large cabin at a reasonable price and isn’t so concerned about range.” —K.J.H. and G.P.
WHEN IT COMES TO CABIN ELECTRONICS, HIGH TECH RULES
by Kirby J. Harrison

Ask a completion and refurbishment center what buyers consider most important these days and the answer, almost without hesitation, is “connectivity.” Whether the customer wants to stay connected through voice or data transmission to keep on top of things at the office or simply to be entertained, cabin electronics is a high priority.

“In terms of technology, the back end of the airplane is still a wild card, with individual customers demanding individualized solutions to suit individual desires,” said Cessna v-p of interior design, engineering and development Cindy Halsey.

They don’t ask for any LCD monitor and DVD player; they want a wide-screen, 42-inch, high-definition 1080p monitor, and the DVD player has to be the latest high-definition Blu-ray box.

Unless it’s a narrow- or widebody bizliner, a surround-sound theater experience is a bit unrealistic. However, something approaching the surround-sound home-theater experience is well within the realm of possibility.

In fact, Savannah Air Center is currently installing a SkyTheater package with high-definition and surround-sound in a Bombardier Global scheduled for delivery later this summer. “It’s way past good,” said CEO Jeff Zacharias.

Must-have Cabin Communications
It’s difficult to tell where necessity ends and convenience begins, but certainly there is some overlap and broadband communication falls into both categories.

Late last year, analysts at Freesky Research in Arlington, Va., released a report saying that business jet passengers will be the biggest users of in-flight broadband data services over the next four years. “Private jets with maximum takeoff weights of more than 50,000 pounds will be one of the leading segments of the market,” said the report’s author, David Gross. “They have the width to carry most fuselage-mounted antennas and sell at prices that make broadband systems a small share of the overall cost of the airplane.”

The debut of Inmarsat’s SwiftBroadband satellite data service lends credence to the Freesky Research report. SwiftBroadband is an always-on service capable of transmitting data to aircraft at speeds of up to 432 kilobits per second.

While that’s good news, Inmarsat’s plans to launch its third and final I4 satellite to complete the broadband global area network (BGAN) suffered a setback when the Russian Proton Breeze M rocket set to carry the satellite shared its launchpad with the Russian Proton rocket set to carry the satellite from the Baikonur Cosmodrome.

The AMT-3500 antenna can fit on a range of business jets down to the size of a Falcon 50, Learjet 45 and midsize Citation.

Built-in Wi-Fi capability of the EMS hardware will allow passengers to use their Wi-Fi BlackBerrys with no additional setup. Both systems will be available later this summer.

SwiftBroadband data using the service costs about $10 per megabyte, or about 11 cents per e-mail message sent from any Wi-Fi-capable laptop, Blackberry or Apple iPhone. System 6 supplies data at rates between 200 and 300 kilobits per second through an eFusion HSD-467, high-speed-data terminal and AMT-3800 high-gain antenna. System 7 is capable of data downloads between 100 and 200 kbps, using the SHD 467 terminal and a smaller AMT-3500 intermediate-gain antenna and CCU-200 communications convergence unit.

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Satcom 1 is off and running in the race for market share in a communication system that will allow the in-flight use of personal cellphones and personal digital assistants (PDAs), such as the Blackberry. In fact, the Danish company considers itself among the frontrunners and in May announced details of its system, based on Inmarsat’s SwiftBit and SwiftBroadband satcom and developed as part of Satcom 1’s AvioIP portfolio of communication services.

The AvioIP has already been installed in a Boeing Business Jet and an executive version of the Airbus A330 and A340. Satcom 1 is in discussions with Dassault Falcon Jet to make the system available on the French manufacturer’s line of business jets and an agreement is expected by year-end. The company is also talking with a number of independent completion and refurbishment centers, including Swiss giant Jet Aviation.

Operators of business aircraft can more easily account for their satellite communications usage in flight.

The Satcom1 system will let passengers use their cellphones in flight.
by taking advantage of a new feature added to the Arinc Direct in-flight portfolio. It permits online access to current calling data, allowing aircraft operators to track their actual satellite communications charges in close to real-time.

The new capability is available immediately to all Arinc Direct customers and is accessible through the company’s Web-based user interface from any Internet connection.

Earlier this year, Avionics Innovations showed off its helicopter-specific integrated cabin entertainment (ICE) package. According to sales manager Dave Cahill, the first installation went into a Bell 427 and included a passenger control unit with a commercial television-style remote and Sirius satellite radio receiver.

A major aspect of the package is a multi-mode DVD/CD/MP3 player that can be mounted vertically for installation flexibility in the limited space of a helicopter cabin. ICE video is displayed on a seven-inch, wide-screen, flat-panel display with foldaway capability and 360-degree swivel mounting. Avionics Innovations is developing a high-definition version of the DVD player and screen.

At EBACE in May, Thales announced it is aiming to become a major supplier of avionics systems, challenging the likes of Honeywell and Rockwell Collins. “With the bizjet market doubling every ten years, we see it strategically as a good market, with increasing synergies with the regional and air transport markets,” said Emmanuel Grave executive v-p and general manager of Thales Airborne Systems.

The French firm’s market focus is medium and larger business aircraft, but Grave said, “That doesn’t mean we won’t target the smaller end of the market.” Grave said Thales has already won “a position” with a particular business jet manufacturer for Wi-Fi and SwiftBroadband for a single aircraft type, with an option on its other models. He declined to name the manufacturer.

The long-anticipated FAA supplemental type certificate for Flight Display Systems’ Ellipse TV was granted in March and promises satellite-direct television at considerable savings.

The antenna and receiver system alone sells for $99,650, a considerable saving over competing products in the $400,000 range. An additional $50,000 covers the cost of installation of antenna, receivers and cabin display monitors.

Ellipse TV also opens in-flight television access to midsize and smaller aircraft for which other antenna equipment was too large.

Honeywell has announced that an in-flight messaging service for Wi-Fi-compatible BlackBerrys is now available as part of its OneLink cabin service. The service can configure Swift64 and SwiftBroadband satcom and router equipment to enable in-flight e-mail messaging. It can also be configured to allow general access for all passengers or secure access for designated passengers.

Although service is always active after takeoff, users pay only for the data they send and receive. Honeywell said it plans to announce hardware and service pricing in the third quarter.

Duncan Aviation has installed the EMS Satcom eNfusion HSD-500 data terminal in a Challenger 601-3R. The Lincoln, Neb.-based aircraft maintenance, avionics and completion and refurbishment specialist claims it is “one of the first Challenger 601s to be upgraded with true Inmarsat SwiftBroadband capability.” It allows passengers to use Wi-Fi-capable PDAs, including laptop computers, BlackBerrys, iPhones and other communication tools, in flight. According to Duncan, users will experience data transfer rates “up to five times faster than most other systems, giving them DSL-like speeds.”

In May, Rockwell Collins and Arinc Direct announced the successful installation of their high-speed Internet communications solution for business jets—exchange with service by SkyLink-on-a Citation X.

The aftermarket installation was completed at Arinc’s Colorado Springs, Colo. facility, using an in-house STC developed under Arinc’s recent organizational designation authority.

The broadband terminal hardware and satellite network ground infrastructure is provided by ViaSat and uses ViaSat ArcLight advanced mobile broadband technology.

Flight Display Systems recently unveiled its proprietary “Fly HD” package, which it claims is the world’s first true in-flight high-definition (HD) video system.

The Alpharetta, Ga.-based firm said it has produced a system that will allow an off-the-shelf Blu-ray product to communicate with on-board high-definition monitors. To display a true HD video signal, you need an HD source, such as a Blu-ray DVD player, and an HD monitor, said Flight Display president David Gray. “Although the industry has a few HD monitors approved for in-flight use, there has been no HD source equipment produced for private aviation applications.”

Piaggio Aero, the Italian manufacturer of the Avanti II high-speed turboprop twin, is offering two Aircell broadband options as optional equipment aboard the Avanti II.

The installation will give passengers the choice of U.S. or global in-flight connectivity for e-mail, Web surfing and corporate VPN (virtual private network) access.

It is the first broadband system selection by a major business aircraft manufacturer since Aircell began taking orders in April.

Cessna has expanded its entertainment option on the new Citation CJ4 by adding Rockwell Collins’ iPod docking solution to Rockwell Collins’ Venue cabin management system.

Rockwell Collins is a member of Apple’s Made for iPod program, designed to offer new iPod solutions with flexible designs so passengers can charge their iPads and distribute music, podcasts and video throughout the cabin over the audiovisual system. Venue’s programmable switch panels permit passengers to access and control their iPads remotely from the seat.

The decision “opens up a whole new world of entertainment options for CJ4 passengers,” said Mike Tiffany, director of business jet product lines for Rockwell Collins.
customers who believe that EASA approval will add to the resale value later, or at least increase the pool of potential buyers. "They want a clear documentation trail, so we're developing a lot more certification documentation in support of everything we do."

"We had a customer last month who was going through the pre-buy process for a Challenger and a lack of documentation on a side-facing divan killed the deal."

Despite suggestions that there seems to be a "softening" of the U.S. appetite for new business jets, it doesn't seem to be apparent to OEMs or to lenders.

According to Roger Whyte, senior v-p of sales and marketing at Cessna, the Wichita OEM has not encountered any sales in which customers had difficulty with financing, and for two good reasons. "The business airplane is an extremely valuable asset and holds its value well, even in times of economic uncertainty, and the people buying them are typically good credit risks."

The increased presence of lending institutions at the recent major aviation trade shows seems to confirm Whyte's analysis. At NBAA last fall, 10 firms were present, including Bank of America, Wachovia, Merrill Lynch Capital and Wells Fargo. More recently, at the EBACE show in May, Barclays, Credit Suisse and Key Business Aviation Financing were among the exhibitors.

On the other hand, faced with the ongoing global credit squeeze, representatives of those finance houses appear to be wearing a cautiously optimistic public face. At EBACE, Bank of America Leasing international sales director Tonnes von Limberg, said, "The current economic situation has certainly improved the financing conditions for buyers."

Mary Schwartz, global head of aircraft financing and managing director at Citi Private Bank wealth management service, expressed a similar sentiment. "Based on what we know today, continued volatility in credit markets has significantly impacted the cost of capital across our industry."

On the other hand, she added that she expects the business aviation industry will remain profitable and on that basis, "the market will adjust pricing to reflect wider market conditions."

While both may be right, there is another consideration, said a source at one OEM, alluding to the rise in corporate profits and individual wealth in recent years, particularly outside the U.S., "There are more than a few individuals and companies out there for whom financing isn't an issue."

Discussing the international market, Whyte and others refer to the economic resurgence in recent years of Brazil, Russia, India and China. The last two are still emerging, said a Bombardier spokeswoman. But Russia, she added, "is no longer emerging; it's there." Bombardier expects 70 percent of its sales this year will be to customers outside the U.S., and the bulk of those will be to Russian customers. Illustrating that point, a recent ramp occupant at an independent completion and refurbishment center in Florida was a Falcon 7X, dressed in a flashy metallic gold paint scheme (see photo above). It was destined for a customer in Moscow.

Whyte also notes a changing socio-political climate in the Middle East. A little over a decade ago, airplane ownership was restricted, usually to members of a royal family. Today, Middle East entrepreneurs can and do own airplanes. "Also, residents of the Middle East are finding more reasons to travel within the region [and] we're seeing more interest in midsize aircraft and a lot of start-up charter operators." Other Middle East companies are doing more business abroad, which is propelling market demand for large-cabin aircraft.

INTERIORS SHOPS WORKING AT CAPACITY

Those who do not subscribe to the trickle-down theory of economics are probably not engaged in the business of aircraft interior completion and refurbishment. It's difficult to find an independent completion and refurbishment center that isn't benefitting from the continued growth in new and used aircraft sales.

Capital Aviation in Bethany, Okla., has added a 10,000-sq-ft hangar, is planning new back shops for upholstery, cabinetry and finish work, has added a second work shift, and is taking interior project inquiries six months out. "People are still snapping up premium airplanes for premium dollars," said Price, "and they're bringing them here."

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Price agrees. Earlier this year, a Gulfstream III in for a major refurbishment at Capital Aviation was sold with two months remaining on the project. "The buyer and seller did the deal right there on the floor."

"There are a lot of big, ambitious [refurbishment] projects looking for slots," said Brian Husa, completion sales representative at Duncan Aviation. The company has facilities at its headquarters in Lincoln, Neb. and in Battle Creek, Mich., where a major expansion was completed just last year. Duncan is "seriously" considering a West Coast location, "probably in the 2010/2011 timeframe," that will include a full range of services—aviation, maintenance and completion and refurbishment.

Husa acknowledged that some customers have come in saying they want to keep costs down. "But for every one of those," he added, "we get someone else who wants the works."

At Midcoast Aviation, a relatively recent acquisition of Swiss aviation services giant Jet Aviation, the independent completion and refurbishment center is on "two heavy shifts and a medium third shift, working six full days a week and the occasional non-mandatory Sunday."

And the work week at this point is averaging 50 to 55 hours, with overtime averaging 20 to 25 percent, said president Sutterer.

"We're not running three shifts," said Mike Menard, v-p and general manager of Standard Aero's refurbishment center in Springfield, Ill. "But we're close." Standard's Springfield facility has 225,000 sq ft spread through four hangars, and the workforce now totals more than 250.

WHO'S TAKING UP THE SLACK?

Every OEM is at the very least struggling to meet delivery dates for new aircraft. There is no single factor responsible, but certainly there are some that can be identified, among them vendors' inability to keep up with demand, unanticipated work-order changes and a failure to predict the complexity of owner expectations for the interior.

Dassault Falcon Jet has admitted that the extent to which buyers of its new Falcon 7X want to individualize the cabin of the new airplane was a major factor in delaying delivery dates by as much as six months for some aircraft. This despite considerable advance preparation, including building a new addition to the company's Little Rock completion center devoted exclusively to 7X outfitting.

To solve the problem and reach its goal of 40 Falcon 7X deliveries a year by 2010, the company signed an
agreement in May with Duncan Aviation to take on Falcon 7X outfitting and other airplanes that are being completed at Dassault’s Bordeaux, France facilities. Jet Aviation in Basel, which has traditionally done a limited number of Falcon 2000s and 900s, is preparing to add the 7X to its cabin completions repertoire.

BUSINESS IS BOOMING FOR BIGGER AIRPLANES

If the completion and refurbishment market for aircraft up through large-cabin business jets such as Gulfstream’s G550 is booming, the narrow- and widebody bizliner segment of the industry is through the roof. At least three centers are full and have aircraft either on a nearby ramp or in a hangar, ready to roll in when the next finished airplane rolls out.

Swiss independent completion and refurbishment center Jet Aviation officially opened its new 100,000-sq-ft hangar in Basel on May 16, with an Airbus A340-600 already in residence. With that much hangar space it will be able to accommodate an Airbus A380 and a Boeing 747 simultaneously.

According to Eugen Hartl, v-p of completion and modification, Jet Aviation in Basel is looking at a wide-body aircraft backlog into 2015. “I’ve been with the company 12 years and I’ve never seen this kind of activity,” he said. “Last year was a record year in terms of man-hours and net sales, and 2008 will be bigger.”

In 2006, Jet Aviation acquired U.S.-based Midcoast Aviation and anticipates an increase in capacity there. Midcoast recently added a 145,000-sq-ft, twin-bay hangar capable of holding as many as six Airbus ACJs. Hartl said Jet Aviation plans to bring the Midcoast ACJ completion capabilities on line by the middle of next year to relieve some of the pressure on the Basel facilities.

Associated Air Center, now part of Standard Aero, which is in turn part of Dubai Aerospace Enterprise, is doubling its cabinetry capacity and is expanding its soft-goods shop for upholstery and panel covering. Meanwhile, the big Dallas Love Field-based center has been outsourcing for the last year, “more than we’d really like.” That will change as the back-shop expansion project comes on line, said Associated senior v-p Michael Moore.

HAUTE COUTURE CABINS AIRBORNE

It’s haute couture indeed, but this runway is paved and smells more like jet-A than Chanel.

At EBACE in May, haute couture aircraft cabins were featured prominently, illustrating a growing partnership between private aviation and major fashion houses.

TAG Aircraft Interiors (TAG-AI) announced an agreement with seating specialist B/E Aerospace to offer a line of designer seats as part of a partnership between TAG-AI and Gianni Versace of Milan. The partnership assigns responsibility for content, design and style to Versace, while TAG-AI manages the logistics and technical aspects of the interior design contracts.

“Ultimate comfort technology” from B/E will be a key element in the cabin design, with seats combining intuitive ergonomic controls, including a 360-degree swivel capability, with the luxury and craftsmanship of Versace’s artists and craftsmen.

Helicopter manufacturer AgustaWestland also has a Versace connection, announced at the Hel-Expo show in 2007, where a Versace interior was shown in an AW109 Grand. This year, the Anglo-Italian company expanded the line to include the AW139. Renzo Luniardi, senior vice president of AgustaWestland commercial business, said “five or six” Versace helicopters have been sold to date.

At EBACE this year, AgustaWestland announced it had received its first order—from a private Russian customer—for an AW119K e with a Versace interior. Configured for six passengers, it will be flown in executive and corporate operations.

Eurocopter has announced its first order for an EC 135 Hélicoptère par Hermès. The light twin is expected to be delivered to Abu Dhabi-based operator Falcon Aviation Services by year-end.

The cabin layout will reflect the artistic canvas of the French fashion house on surfaces throughout the interior. A sliding glass partition will separate the passenger compartment from the cockpit. Four paint schemes are offered for the helicopter exterior, and the cabin will come in five colors.

Eurocopter expects to sell at least six Hermes variants this year at about $9 million each.

–K.J.H.
Aero Toy Store Making Waves, Literally

Aero Toy Store, well known for buying, upgrading and refurbishing private jets for resale, is going to sea with plans to buy, refurbish and resell luxury yachts. According to company founder and CEO Morris Shirazi, the Fort Lauderdale, Fla.-based aviation services provider “plans to do for water travel what it has done for luxury aviation.” To back up the announcement, Aero Toy Store has purchased and begun refurbishing a new luxury yacht inventory—a 147-foot Sterling yacht is undergoing a complete refitting, and a 90-foot Pershing vessel has already had a complete upgrade. Both craft will be berthed in Monte Carlo from early this month through September as the company’s European sales center for private aircraft and yachts.

Greenpoint Keeps BBJ Line Moving

Greenpoint Technologies delivered its 14th Boeing Business Jet in May and is staying busy. The independent completion and refurbishment center recently signed a contract to deliver another executive-outfitted airplane next year and has a letter of intent for another to be delivered in 2011. According to executive v-p Sloan Benson, “We have a significant BBJ backlog [and] demand for completions has never been greater.”

Gore Design Completions Lands a Biggie

Gore Design Completions, a growing force in the narrow- and widebody completion and refurbishment industry, has taken on what might be its biggest challenge to date—the outfitting of a head-of-state Boeing 777-200. The San Antonio-based firm had previously done a 767 interior for the same central Asian customer and is working on the client’s Boeing 737-300 cabin completion. The 777 is scheduled to arrive at Gore in late 2010 and the company expects the project to require about 12 months. Since January, the center has delivered three green BBJs and its first Airbus A320 Prestige. Currently in the hangar is an A340 in for redesign and partial refurbishment.

Texas Aviation Expands Latin American Presence

Texas Aviation Services, which recently teamed with Brazilian aviation consultant Sierra Aeronautical of São Paulo, continues to extend its market presence in Latin America. In April, the Fort Worth-based completion, modification and maintenance specialist delivered a second green Bell 206B-3 to the governor of the Mexican state of Sinaloa, completing a two-ship contract originally awarded in May last year. Both are outfitted for multi-role use, including personnel transport and medical emergency service. Also in April, Texas Aviation delivered its third helicopter cabin completion project, a Bell 407, to a Dominican Republic customer. According to company president Tim Woodard, the helicopter is outfitted for personal use “in true limousine style.” Since January, the center has delivered three green BBJs and its first Airbus A320 Prestige. Currently in the hangar is an A340 in for redesign and partial refurbishment.

Delta Design Adds the Italian Touch

Delta Interior Design made its presence known at the European Business Aviation Convention & Exhibition (EBACE) in May, promoting highly customized and personalized cabin refurbishment designs. The company’s artisans are particularly skilled in customizing leathers, fabrics, carpeting and veneers, and the staff includes three faux-finish artists who work with shadow and light to create intricate 3-D designs.
Piaggio has consolidated its interior completions at a sole source for North America and is introducing a refreshed cabin. Jet Works of Denton, Texas, will now handle all Avanti II completions. Jet Works is in the process of installing the first new-style Avanti cabin. The new interior has a smoother appearance and more room for storage. All the pieces go together faster, so completion time was halved and now takes one month. Once the airplane has been properly prepared, an entire new interior can be installed in just three to four days, instead of 10 with the old-style interior, according to Jet Works.

The refreshed interior also includes updated cabin lighting. All upwash, downwash and aisle lighting has been modernized with LED. The PSUs are integrated for a cleaner look. A new acoustic insulation package was added to reduce cabin noise. The lavatory cabinets and lavatory pocket door were redesigned to provide more storage and better clearances. In-flight entertainment options have been updated, and now include the Rosen combination CD, DVD, moving map, and mp3 unit.

Custom cabins will still remain available. The Avanti’s standard cabin has remained largely static for more than two decades. Incremental changes that were made, such as the addition of mid-cabin cabinets, were fashioned together in a manner that added weight, increased installation times, and diminished the relatively clean lines of the original design.

In some ways, the general retail market drives customer expectations. If they see it on display at popular retail stores, they have every expectation that it should be available in the airplane for which they’ve just paid $20 million or $40 million.

“In the past, customers, and the industry as well, pretty much accepted certain limitations as part of an aircraft cabin environment,” said Cindy Halsey, v-p of interiors, design engineering and development at Cessna. “Today, customers feel free to express higher expectations, and the industry has raised the bar higher than I’ve ever seen it in my career. [They] are more aware of what’s possible, and they want it,” she added.

Halsey also described a greater desire than ever for a

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As for doing an A380, Lufthansa Technik can accommodate the airplane in terms of size. The question is one of timing, and whether there will be an available slot. Asked if Lufthansa would consider bidding on an A380 contract, Heerdt made it clear that the company would not do so at the expense of delivering existing customers’ airplanes on time.

Looking farther into the future, Lufthansa Technik has begun construction of a $15.6 million research and development center for its Cabin Innovation division. The 70,000-sq-ft, five-story building is expected to be ready for occupancy by December.

If there are any doubts as to the long-term demand for widebody completions, one need only look at the $1.5 billion order for six A350s that Airbus announced in May. Saudi-based MAZ Aviation will take delivery of one A350-800 and five A350-900s between 2015 and 2019. All six airplanes will have executive interiors and are already spoken for by individual owners. “They will be personalized, just like a yacht,” said MAZ Aviation founder and chairman Mohammed Al-Zeer. The A350 orders from MAZ are in addition to two A350 XWB orders placed last year by other customers.

If that doesn’t make the future look bright enough for the completion centers, Boeing’s order book for widebody executive aircraft is no less fat. At EBACE in May, Boeing Business Jets reported orders in the last year for 33 airplanes valued at $4.2 billion, bringing the total number of BBJ orders taken to date to nearly 170. The value of the current backlog stands at more than $7.6 billion. “How long this can continue is anybody’s guess,” said Boeing Business Jets president Steven Hill.

Hill might be right. But with firm orders already on the books for sixteen 787s and seven 747-8s, and more to come, completion centers are likely to be busy with executive widebody work well into the next decade.

Meanwhile, Boeing is looking to clear slots on the 737 production line for 80 BBJs in 2010 and still more in 2011 and 2012. The Seattle-based company also has orders for seven BBJ5s.

Competitor Airbus is seeing similar demand for its narrowbody Airbus Corporate Jetliner series—the A318 Elite, the A319 ACJ and the A320 Prestige. The
highly individualized cabin. She said Cessna’s new large-body Columbus in particular is an example of an airplane with a well defined portfolio of interior possibilities. “But that’s just a starting point,” she explained, “and we’re expecting customers with a healthy appetite for the unique.”

“One of our recent customers,” said Menard of Standard Aero in Springfield, “wanted black leather seats modeled after those in his BMW.”

Demand for the unique is especially evident in the larger business jets, in particular Globals and Gulfstreams. Completion and refurbishment centers are reporting orders for ultraviolet circulating water purification systems and humidification packages. LED lighting, considered cutting edge a few years ago, is common now; it comes standard in new aircraft and is expected by refurbishment customers.

As more and more owners expect a dining experience equivalent to that in a fine restaurant, they are employing flight attendants who are also chefs, or who at least have the skills to cook on board the airplane. As a result, galleys are becoming better equipped, with multiple electrical outlets for such items as an electric skillet and convection oven in addition to the usual microwave, wine chiller, espresso maker and refrigerator.

It stands to reason that such customers for a business jet would also want the latest cabin technology. They want a cabin management system that doesn’t require a Ph.D. in engineering to operate. They don’t merely want a 42-inch LCD monitor; it has to be high-definition-capable, and the DVD has to be Blu-ray so that the latest DVD offerings will be in high-definition.

One completion center reported a customer who wanted an OLED (organic light-emitting diode) monitor. “It isn’t even commercially available yet, but he was adamant that OLED is the future and it’s what he wants.”

On the other hand, said Duncan Aviation completion designer Nate Klenke, “We’ve had some customers want the best for their new airplanes, including OLED lighting panels not even commercially available yet.”
Air Center, the facility has on-site designers and engineers, and shops provide cabinetry repairs as well as new cabinetry fabrication and seat upholstery.

Sherwin-Williams Develops Chrome- and Lead-free Paint

The new CM0481968 primer/surfacer from Sherwin-Williams Aerospace Coatings fills two paint niches—providing faster priming and surfacing on all types of aircraft, at the same time eliminating chrome and lead hazardous products. The new, low-VOC, volatile organic compounds, two-component, corrosion-inhibitive epoxy primer/surface reduces permissible exposure limits for hexavalent chromium, thereby meeting the Occupational Safety & Health Administration’s latest standard for exposure to this chemical. Because it is a corrosion-resistant primer and surfacer, the product allows aircraft painters to eliminate costly steps in the paint process, as well as reduce the time needed to complete a project, said director of sales Marc Taylor. And, he noted, it often eliminates the need to sand and apply a surface coat between primer and topcoat.

BAe and Avro Business Jet Launch the ABJ

Some might call it a baby BBJ, but BAe Systems Regional Aircraft and its new partners call it simply the ABJ, or Avro Business Jet. BAe has joined with Stansted Airport-based Inflite Engineering Services and Design Q of London to provide a one-stop shop for customers looking for a low-cost executive aircraft in the niche market between the Gulfstream V and Boeing Business Jet. Their solution is a reconfigured and refurbished version of the BAe 146 and Avro RJ airliners, which were originally designed to carry approximately 128 passengers.

Design Q will provide interior reconfiguration designs. Inflite Engineering will do the customized interior completion work and any necessary aircraft maintenance and modification. The most recent project by Design Q and Inflite Engineering is the executive conversion of an RJ70 for use by Bulgaria’s Hemus Air. The aircraft, scheduled for delivery late this year, will feature a three-element cabin with double-club seating, side-facing divan and 12-seat business-class section. The cost of a relatively low-time Avro RJ is roughly $3 million to $4 million, and the cost of a maintenance upgrade and interior reconfiguration and refurbishment ranges from $5 million to $6 million. According to BAe, the range of the reconfigured aircraft, with auxiliary fuel tanks, would be approximately 1,500 nm. According to BAe sales executive Andy Whelan, “Sales of the aircraft have taken off in the past twelve months.” To date, 23 BAe 146s and Avro RJs have been, or are in the course of being, converted for use in a variety of private aviation roles.

AgustaWestland Unveils AW101 Luxury Cabin

AgustaWestland unveiled an executive cabin mockup of its new
customers come in and say, “We bring all our own entertainment; all we want are some outlets.”

That’s probably taking it to the extreme, but the fact is that despite wanting the latest in cabin entertainment technology, passengers are indeed carrying aboard their own entertainment devices—from the ubiquitous iPod to the latest computer games.

Completion and refurbishment centers that were installing a single iPod dock in airplanes two years ago are now getting orders for iPod docks at every seat. “And not just iPod docks,” said one designer. “They want to be able to watch videos stored on their iPods on the cabin entertainment system.”

It almost goes without saying that high-speed Internet connectivity is now a necessity, rather than a luxury. At EBACE in May, broadband options were abundant as communications providers offered the latest, promoting everything from an expansion of global connections to Wi-Fi to near-DSL data speeds. Ironically, the long-awaited rollout of end-user broadband service has indeed begun, but it would appear that the rollout will continue for some time to come as companies such as Rockwell Collins, EMS Satcom, Thales and Thrane & Thrane continue to refine and do battle for market share.

While technology is in the driver’s seat, so to speak, completion and refurbishment centers—and their customers—are more aware than ever of the cabin as a whole package. “It’s a total environment; a total experience,” said Halsey.

For many years, the impression of the business jet cabin has been one of a “white-bread” look that differed little from one airplane to another. Leather seats came in two basic color variants—tan and gray. Or as one designer put it, “multiple tones of boring.”

Customers today are still careful to consider what effect a major departure from “boring” will have on the airplane’s resale value, or the desirability of the airplane as a charter aircraft. But Duncan’s Klenke said he is seeing more individuals with “a more bold vision” that is evident in seats with contrasting trim and panels or more striking colors. Sometimes it takes the form of patterned panel coverings or sculpted leather accessories.

In the narrow- and widebody bizliners, with which designers have much more room to work—more than 6,000 sq ft in the case of the Airbus A380—there is a move away from credenzas and divans and other furniture and cabinetry mounted against sidewalls and bulkheads toward furniture that is more appropriate for a living area, said Klenke.

“Brokers and dealers still opt for the ‘vanilla’ interior,” said Capital Aviation’s Price. “But the new designs have more curved edges, and if there are splashes of individuality, they’re in places where they’re easily and inexpensively changed.”

Price also noted that as more and more owners and operators travel abroad to places where “cash is king,” they’re asking to have safes installed in the aircraft cabin. An onboard safe is also not a bad place to store sensitive documents and other data.

It would appear from interviews with those in the business aviation industry, particularly those engaged in aircraft completion and refurbishment, that business is good and getting better. And while there is some “softening” of the market in the U.S., expanding markets and newfound wealth elsewhere are more than making up for it.

There are those buying small and midsize business jets who are being careful how they spend their money, whether it’s for a used or new airplane. As for the narrow- and widebody executive transports, the sky is the limit.

The desire for a luxurious interior extends to helicopter operators, who expect the same comfortable cabin they have in their jets. Air Concepts International outfitted this AgustaWestland AW139.
AW101 at EBACE in May. The 10-passenger interior was "just one of the possible layouts in such a roomy cabin," said an AgustaWestland spokesman. The mockup also featured an entry foyer, as well as four executive swivel seats and a central table to form a conference area. Other possibilities include a lavatory and cabin attendant station. AgustaWestland claims that with more than six feet of stand-up headroom, the AW101 will offer 30-percent more cabin volume than its closest competitor.

Cirrus Orders 328JET Executive Conversion

328 Support Services has obtained a conversion contract from Cirrus Group of Germany for an executive 328JET. The contract is valued at about $4.73 million and work will be done at the 328 Support facilities in Oberpaffenhofen, Germany. The new interior accommodates 12 passengers and will feature executive seats from DeCrane Aerospace, individual seat video monitors and a galley. 328 Support is at work on another 328JET conversion, a 12-seat executive job for a European customer. Included in the conversion are auxiliary fuel tanks giving the twin-jet a range of 2,000 nm. It will bring to seven the total number of 328JET executive conversions by 328 Support.

Polymer Technologies in Search of the Quiet Airplane

Newark, Del.-based Polymer Technologies has introduced Polyform molded products, a collection of four formulas. According to the company, the product can be customized to provide noise absorption and vibration damping and isolation in one economical, 3-D package tailored to meet specific geometry and design requirements. One Polyform product, said a company representative, can replace multiple components, resulting in lower installation costs.

L-3 Installs Self-Protection System in Head-of-State BBJ2

L-3 Integrated Systems of Waco, Texas, recently delivered a modified BBJ2 equipped with L-3’s Widebody Integrated Platform Protection System (Wipps). The system is designed to protect the airplane from the threat of shoulder-launched, heat-seeking missiles. L-3 also has a contract to modify and install Wipps on two Boeing 747-400s belonging to the same customer, with deliveries scheduled for the second half of this year. The Wipps installation was performed during downtime as part of an interior refurbishment.

Innotech Paint Facility Plans July Opening

The walls are now going up and Innotech Aviation’s new 41,000-sq-ft paint preparation and application facility is scheduled to open for business this month. The new shop adds to the company’s maintenance, avionics, engineering and completion and refurbishment capabilities at Montreal’s Pierre Elliott Trudeau International Airport. The shop can accommodate aircraft as large as the Global Express XRS.

Among the features is variable-speed airflow, eliminating the need to pressurize the paint bay and allowing for electrostatic paint application.

BaySys Picks CTT Cabin Humidification Package

BaySys Technologies has ordered the Cair cabin humidification system from CTT Systems for installation on an executive Airbus A340 being outfitted by the Acco-mac, Va.-based independent completion and refurbishment center. The Cair system is designed to provide a relative cabin humidity level of 20 to 25 percent. Cabin humidity without a humidifier is typically 3 to 5 percent.