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"WITH A GOOD ATTITUDE TOWARDS CHANGE THERE ARE HARDLY ANY BARRIERS TO INNOVATION"

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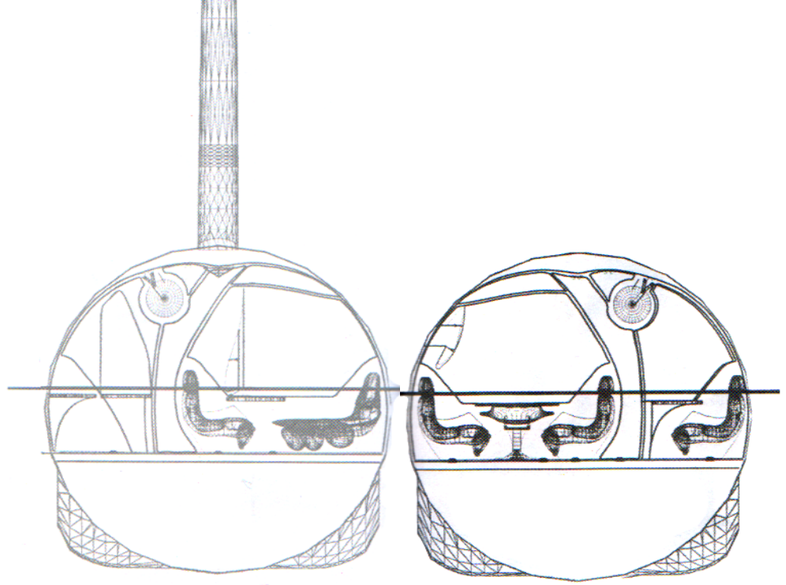
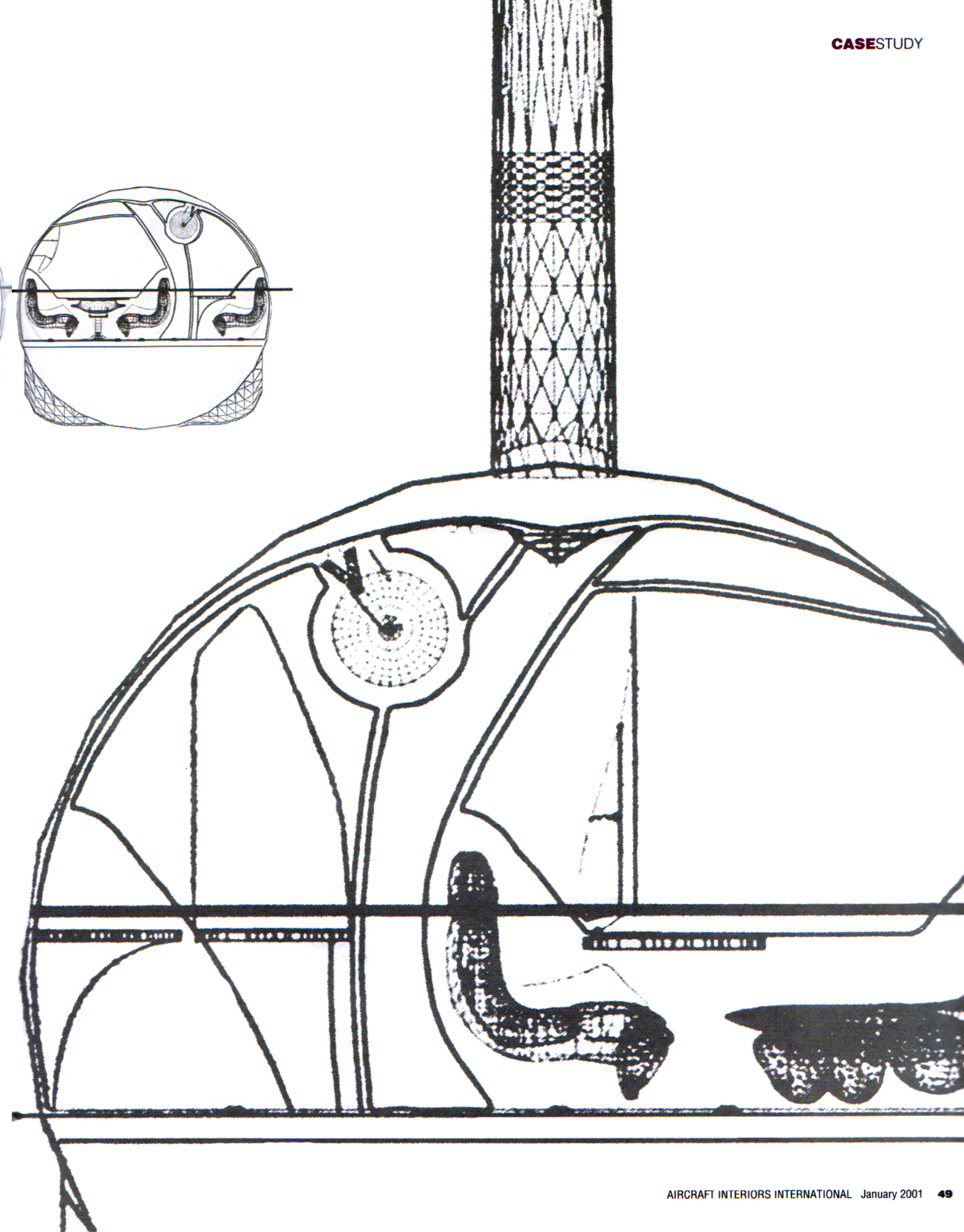




team spirit

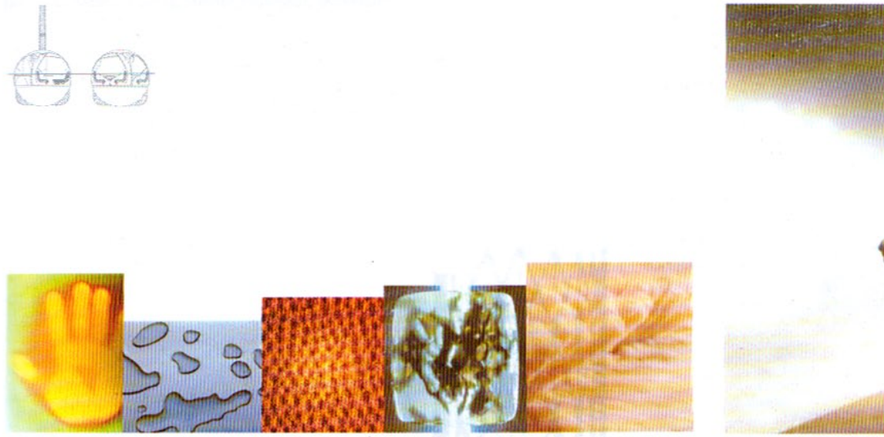
THE DOMUS BBJ COMPETITION WAS ORGANISED USING A UNIQUE DESIGN PROCESS METHODOLOGY TO ENCOURAGE INNOVATION AND NEW WAYS OF THINKING AND WORKING

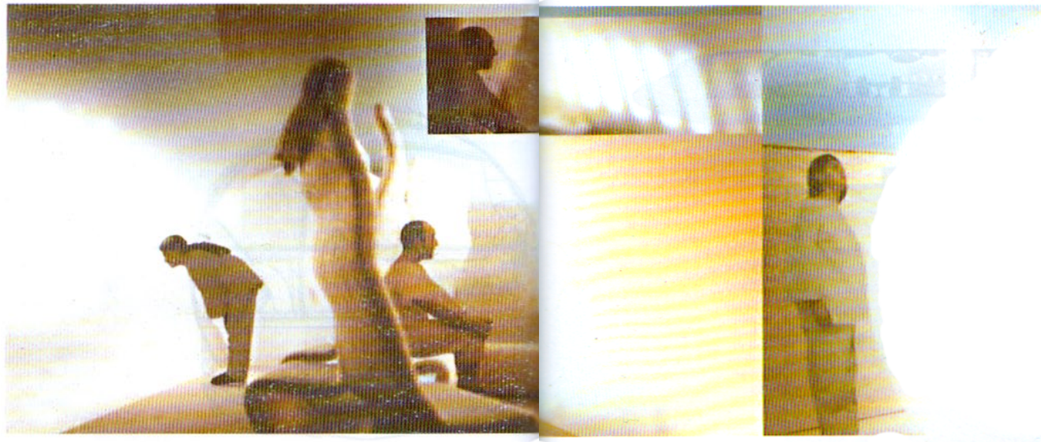
The *Domus* BBJ competition can trace its roots back to the initial irritation Susan Corcos, a recently retired packaging materials executive and proprietor, felt when, as a potential customer, she was first shown the interior of the Boeing Business Jet mock-up. As a fellow founder of BEDR (Business-Education-Design-Research), a global group network established to break down the barriers between academic and business organisations, the luxury interior did little to excite her more inquisitive mind. For her, the BBJ's spacious cabin presented a golden opportunity to explore a more radical notion – the philosophy of well-being when travelling 'in a space within space'.

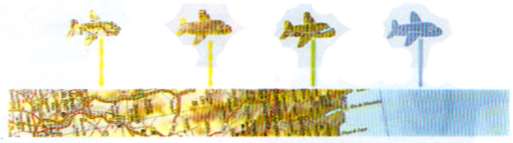
Corcos was ready to try something different. Why should aircraft interiors always reflect the trends and preferences of interior design on the ground? Why not create a 'sky home' - an environment that truly comes alive only when lifted into the skies. With such a thought in mind, Corcos set in motion a plan to bring the philosophy of networking, beauty and novelty into the interiors of private aircraft.

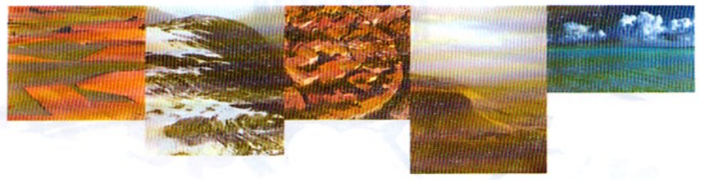
Bringing people together: I personally saw the competition as an opportunity to expand my design knowledge beyond traditional territories of engineering, education, and business into the realm of art and perception. Focusing on issues of boundaries, frontiers and borders, I had been teaching a class on "boundaryless leadership" at various campuses across Europe, USA, and Asia, based on my experience in leading business and technical teams consisting of students, professionals, and executives. The concept for the competition came at the same time I established the BEDR network, an idea that was collectively arrived at during a seminar for business and academic leaders in Seattle. I had already started to teach a final process design class to chemical engineering students (a well-grounded 'process' discipline), admitting business majors and other disciplines of the academic environment, as well as 'life-long learners' – people with existing professional careers.

My first involvement with BBJs and the interiors of executive jets came as a result of this design class, which had successfully developed a water-recirculating concept for a shower for use on aircraft and had managed to build a working prototype in record time. This innovation went on to become a viable









business venture – the Aquajet Appliance Company – again in record time. The design class also worked on other BBJ innovations including its distinctive winglets. Indeed, while analysing BBJ innovations under Borge Boeskov's leadership as president of Boeing Business Jets, it was uncovered that the concept of selling 'green' airplanes was the major driving force behind such leaps in technical evolution. This practice has encouraged the forming of collaborative teaming arrangements – especially with the completion centres, and it was actually during a visit to a completion centre that the idea to call an international competition finally matured.

It quickly became apparent that the publishing world – *Domus* magazine being the most obvious candidate – also had to become a partner in the competition process. Prof. Burkhard, editor of the magazine at that time, embraced the idea from the start. Dr Giovanna Mazzocchi of *Domus Editoriale*, and proprietor of both *Domus* and *Volare* magazines, was also a keen supporter of the project, and was able to combine her love and knowledge of both aviation and design to the benefit of the competition. With the magazine's capabilities at our disposal, we were able to reach a community of possible participants far beyond the traditional borders of aviation. My position as adviser to Boeskov, with assignments to assess innovations in composite materials and in general aviation, also ensured high-level support from the start.

In the spirit of BEDR as a global group network, the competition not only produced significant and impressive innovations of design, but also acted as a vehicle to connect people and organisations in seemingly diverse networks. One of the jurors in the competition remarked how impressed he was with how the world of publishing had come together with the worlds of executive jets and academia to create a network that promoted business, education, and communication. Normally, the boundaries between these disciplines are well defined and provide for separate closed systems. However, the competition brought people and organisations into contact that, if left alone, would never have worked together. Furthermore, the competition clearly occurred at a unique moment – Boeing's entry into the executive aircraft market with the BBJ.

The competition was an endeavour that took me beyond the comfort zone of an engineer and business consultant into the role of a learner. However, as a professor, I was still able to provide my well-established support structure of people and organisations to help set up the Senior Advisory Board of the

and the winners are...

With 75m² of interior cabin space, entrants to the Domus BBJ design competition were encouraged to explore a broad palette of ideas and approaches. Contestants were free to choose their particular area of focus, with proposals ranging from completely new cabin interiors to more specific subjects including the best use of water, advanced climate control, acoustics, interior interchangeability and improvements to work and living quarters. In total 180 entries were submitted, which were then judged according to the following criteria: innovative and original nature of the project in strict relation to the competition's theme; reliability in terms of comfort, utility, costs and technical feasibility; conformity to international regulations regarding aircraft safety; and overall quality of presentation. Fifty projects were selected to compete in the second phase of the competition from which 39 projects were down selected. The jury then selected the five winners.

The 'Flying Carpet' concept, developed by the team led by Ana Mir (Spain), picked up the first prize of US$20,000 as the entry most in tune with the competition's emphasis that submissions need not reflect current aircraft interior trends. Indeed, the 'Flying Carpet' is about as far removed from conventional thinking as can be imagined: bereft of any fittings or decorations, the scheme champions open space and versatility, leaving the traveller 'to find his inner-self'. The concept also proposed that the interior should duplicate the colours of the landscape below, providing passengers with a bird-like flight experience – an idea that again instantly won favour with the judging panel who were looking for an environment that reflected the unique peculiarities of travelling 'in a space within space'.

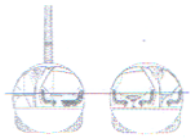
The second prize of US $10,000 was awarded to Michael Fox's team (USA), which came up with the 'Interlocking Transformations' concept. The design enables the interior to be configured to the needs of the passenger before, during, and after the flight, with the necessary emphasis placed on business, transport, or relaxation. The design therefore consists of three basic modules: the first sector features a lounge on one side and a conference room facility on the other; the second provides additional seating in the front and an office area at the back; and the third sector divides between a smaller lounge with a mobile bar and a bedroom. The concept includes a railing system attached to the ceiling to enable the sectors to slide, easing and promoting quick reconfiguration.

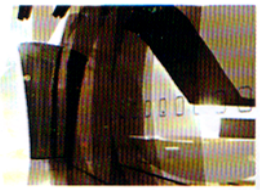
A third prize of US $5,000 was awarded to the team led by Sebastian Zimmerman (Germany), which developed the 'Boeing Bio Hazard Protection Jet' (BBHPJ), in recognition of a more humanitarian agenda.

The BBHPJ design proposed separating the aircraft into seven areas. After the galley and crew rest area, there is a working and travelling area, followed by the bunk beds and lavatory section. Further down the line, two airlocks provide access to a laboratory. A third airlock is located at the end of the aircraft.

Finally, the judging panel awarded two prizes of recognition, both for US $5,000, to the two teams responsible for the 'Rubberplane' and 'Transitions' concepts. The first of these teams, led by Daniele Bedini (Italy), proposed the use of multiple modular substructures to provide high levels of environmental customisation.

The second concept was the work of a team led by Indle King of Teague (USA), whose article on its competition entry appeared in the last issue of *Aircraft Interiors International* (September 2000).





DOMUS HAS ALREADY LAUNCHED ANOTHER DESIGN COMPETITION WITH BMW ALONG THE PRINCIPLES WE HAVE ESTABLISHED

competition, which was on hand to help enrich the experiences of all those involved in this endeavour. For example, it helped to have Stelios Hadzioannou, the founder of easyJet, within the same network as the president of Korean Air and the vice-president of engineering for Lufthansa Technik, along with the owner and publisher of The Japan Times. My role was that of a master catalyst and resource trustee, a role I had never played before, but one that I enjoyed immensely and hopefully fulfilled well enough.

Once the design competition was completed, the question was what the follow-up should be. Should the quality and innovation of the winning designs actually be implemented? However, as I hope this article proves, the real success of the competition was its design process methodology, which was defined through the integration of different network structures of people and organisations. The following are further examples of the positive benefits such an attitude to process methodology can unlock:

Domus has already launched another design competition with BMW along the principles we have established. Meanwhile, Borge Boeskov, Susan Corcos and I recently led a "Four I" workshop analysing and utilising the innovation cycle (invention, innovation, implementation and integration) with all the winners of the competition, as well as some of its jurors, where the potential of collaborating and developing a mock-up concept of their ideas was proposed. Needless to say, the proposal met with great enthusiasm.

Using the expanded network of my advisory board and my core expertise in composite materials, manufacturing, and management processes, I am currently developing strategies to promote better integration between airports and aircraft by focusing on interior design schemes using independent processes, systems, and teams. The TORAYCA light roof concept by Toray Industries of Japan (a BEDR node), is a good example of what can be achieved in this area.

Furthermore, Susan Corcos and I are currently building FREEDOM (Foundation for Research Experiential Educational Developmental Operational Management) - a non-profit organisation that owns the rights to the *Domus*-BBJ competition designs. FREEDOM has been approached by the National Building Museum in Washington DC, to use the results of the competition and go beyond the original concept by building a connection of "small spaces" on the ground and in the air.

Clearly, we have inspired not only designers, but also a new community born from the breaking down of traditional boundaries of existing work systems. This competition has clearly established that through processes, systems, and teams, design can be holistically pursued from the perspectives of art and engineering within a global network environment, combining elements for profit and non-profit endeavours. END

Please contact James C. Seferis, University of Washington, Seattle, Washington 98195-1750, USA, Tel: +1 206 543 9371, Fax: +1 206 543 8386, email:jcseferis@aol.com, Web Site: www.bedr.org/domusbbj