

# Aviation Human Factors Industry News

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*From the sands of Kitty Hawk, the tradition lives on.*

Hello all,

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In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

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## **Brazil airline pilots flying international routes must retake English proficiency tests**

Nearly 40 Brazilian pilots who fly international routes must retake English proficiency tests **on suspicions they are not fluent enough**, Brazil's Civil Aeronautics Agency said Friday, raising questions about air travel safety.

The agency, known as ANAC, said 37 pilots obtained English proficiency certificates from Spain's Flight Crew Training Academy, with which it signed an agreement to administer the tests in late 2011. ANAC spokeswoman Karen Bonfim said Brazilian pilots no longer take the tests at the Spanish institution.

In May, ANAC conducted a study that showed the proficiency tests administered in Spain **did not comply with the standards** demanded by the United Nations' International Civil Aviation Organization, Bonfim said. Suspicions started emerging earlier this year after ANAC noticed "a higher than average number" of pilots going to Spain for their certificates after failing earlier tests administered by ANAC in Brazil.

A working knowledge of English is required for pilots flying internationally.

"Poor English-language proficiency has a pretty big implication because **poor communications can endanger safety and lead to an accidents**," said Kevin L. Hiatt, chief operating officer of the Virginia-based Flight Safety Foundation, an industry-supported group that promotes aviation safety worldwide.

Hiatt said that by understanding each other clearly a **"situational awareness"** between pilot and air traffic controllers is created ensuring them that traffic is being controlled in order to keep everyone safe."

In having pilots retake their English proficiency tests, Brazil "acted in a very responsible and prudent manner to ensure the safety of flights," Hiatt added. If by Dec. 15, the Brazilian pilots don't take and pass another English proficiency test administered by ANAC, they will not be allowed to fly international routes, Bonfim said.



## Assessment Clears Shop Towels of Toxicity Concerns

Of all the potential health risks found in a maintenance facility, a mechanic probably devotes the least concern to the ubiquitous [cloth shop towel](#)—yet it has become the focal point of controversy. The question is whether or not a clean, reusable cloth shop towel contains hazardous residues that can be transferred to the mechanic. While the \$463 million shop-towel industry serves more auto repair stations than aviation maintenance facilities, the number of shop towels used at each MRO facility is significantly higher, making aviation [one of the heaviest users](#) overall, according to Kevin Schwalb, director of government relations for the Textile Rental Services Association (TRSA) of Alexandria, Va.



Schwalb asserts that studies funded by proponents of disposable shop towels used flawed research to conclude that clean, reusable cloth shop towels present a health hazard to mechanics.

“They used a questionable research model to determine exposure to the minute amount of elements on a clean shop towel,” Schwalb told AIN. While he does not dispute that there are trace elements on a clean shop towel, he says research has shown [they pose no health risk](#).

“Our industry study is an actual health assessment using leachate analysis, which uses synthetic sweat to determine what, if anything, will actually come off the towel. We used the same research protocol as the disposables research project and tested towels from ten facilities.

“Our project was independent research conducted by the international environmental engineering firm Arcadis. It found either zero detectable risk from the transfer of the metals or a level that would be considered insignificant even by comparison to health-conservative values established by EPA,” Schwalb said.

According to Schwalb, a standard cloth shop towel is taken away by the laundry, goes into a washing machine, then undergoes an [internal treatment](#) as required by the laundry’s discharge permit. The water is then discharged to the sewer for further treatment by the sewer system.

“The government likes that system better than putting a soiled piece of paper in a landfill. For the most part, regulations have favored the laundering process because it is more controlled. The paper towel user will throw the disposable towel wherever he feels like throwing it, whereas the reusable shop towel is handled in an environmentally friendly fashion,” Schwalb said.

“Reusable cloth shop towels have been used by millions of workers for more than 100 years with [no indications](#) that clean shop towels have any impact on worker health,” said TRSA president and CEO Joseph Ricci. “By measuring leachate, and not simply relying on a modeling format, Arcadis realistically portrayed the minuscule amounts of metals that shop-towel users are exposed to, reaffirming our confidence there is absolutely no risk to users. We look forward to gathering more independent data using this comprehensive protocol [to increase confidence](#) that clean reusable textiles pose no health risks.” The TRSA plans to expand the research beyond the initial sample of shop towels by doubling the number of locations tested to 20.

## **Tales of Mishaps Beyond Aviation**

### **The wrong maps, doors left open, bad wiring: is this why Costa Concordia really sank?**

Consumer group claims electrical problems may have led to the loss of several passengers stuck in lifts

Senior officials at Costa Cruises [knew](#) that the Concordia liner had been sailing with electrical problems several days before it crashed on to rocks off the Italian coast with the loss of 32 lives, it was claimed last week. A raft of damaging new allegations, leaked from Italian magistrates, also suggested the main doors, which were meant to be sealed, [were not closed properly](#) and that the crew were using [unauthorized maritime charts](#) when the vessel ran aground on 13 January with more than 4,000 passengers and crew aboard.



Codacons, the Italian consumer group that is leading a class-action suit against Costa Cruises, yesterday joined the attack, claiming electrical problems may have contributed to the loss of several passengers, who are thought to have died in the [stricken vessel's lifts](#). Codacons lawyer Giuliano Leuzzi said it was feared four victims may have drowned while trapped in the lifts.

The bulk of the claims, including the allegations of crucial failures in the ship's electrical power control system, were denied by the cruise company.

Codacons nonetheless threatened to raid the wrecked vessel, which it claimed was now being dismantled before important evidence had been collected. In particular, the group is unhappy with a decision by prosecutors to allow Costa Cruises to remove radar equipment from the wreck, which lies semi-submerged off the Tuscan island of Giglio. "If they continue to dismantle the vessel without allowing the parties involved to perform the necessary checks, we will not hesitate to raid the Concordia along with survivors," said Codacons president Carlo Rienzi.

Problems with the Concordia's black box voyage data recorder (VDR) emerged on 9 January, according to correspondence acquired by investigators. And it was claimed yesterday that the vessel's [black box was not working](#) at the time of the collision.

In one of a series of emails in the days before the disaster, Costa Crociere's technical director, Pierfrancesco Ferro, told a repair firm: "The VDR has broken down for the umpteenth time... The situation is becoming unbearable." The emails, in which he refers to the faulty device aboard the Concordia, began on 10 January. The correspondence indicates there were plans to finally resolve the problem when the liner docked at Savona on 14 January.

In a statement yesterday, Costa Cruises said the VDR "had only issued an error code". "This in no way meant that the device was out of service, as is demonstrated by the fact that the data it contained were perfectly in line with engineers' expectations." It added: "There is no international regulation or convention that prohibits a ship from sailing in a similar situation."

Codacons, however, disagreed. "The bottom line is that the ship should never have set sail in that condition," Mr Rienzi, a lawyer, said. "Maritime law clearly states a vessel has to be fully functioning." The Costa statement also denied that a power failure affected the vessel's lifts, or the closure of the sealed doors. But it has not commented on the statement by one crew member, Simone Canessa, that doors meant to have been sealed were open at the time of the impact as ["this was a practice used during the navigation to ease the flow of people who were at work"](#).



On the claims regarding "unauthorized" sea charts, Costa Cruises said "the ship was equipped with all the paper and electronic nautical charts needed to complete the voyage planned... but what is most worth remembering is that the ship should never have been sailing so close to the coast".

Francesco Schettino, the vessel's captain, is being investigated for multiple manslaughter and abandoning ship before all of the 4,229 passengers and crew. Eight others, including three executives from Costa Cruises, are under investigation. Operations to remove the shipwreck began in June and are expected to take up to a year to complete. The results of technical analysis will be revealed at a court hearing on July 21.

## **Employers: Encourage Work-Life Balance to Reduce Injury Risks**

Maintaining a solid work-life balance is important not only for employees' mental well-being, but it also [may help reduce](#) occupational injury risk.

Employers who encourage their employees to develop a strong work-life balance may enjoy reduced workplace injury risks, according to a NIOSH Total Work Health article. Maintaining this work-life balance may be especially important during the summer months, when employees' children are out of school and flexible work arrangements might be necessary.



"The protection and improvement of the well-being of all people who work are goals shared by workers, their families and employers," said NIOSH Director John Howard, M.D. ["There is increasing evidence](#) that the work environment and the overall well-being of the workers within it are strongly connected, and many employers are offering family-friendly benefits and programs for their employees."

### [5 Ways to Encourage a Stronger Work-Life Balance](#)

Recent surveys have found that decreased work-family stress is related to reduced injury risk and increased safety compliance and safety participation among workers.

This article, contributed by the Oregon Healthy Workforce Center (ORHWC), a NIOSH Center of Excellence, offers five tips employers can employ to help their teams achieve better work-family balance:

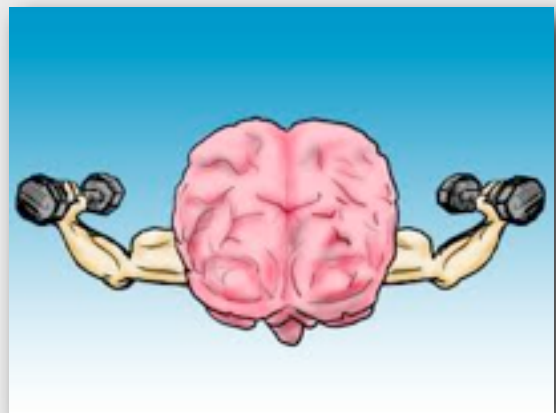
1. Train managers and supervisors to be more supportive of work and family.
2. Give workers more control over their work hours.
3. Create a resource guide for employees and their families.
4. [Be a role model.](#)
5. Encourage and support flexible schedules.

To read about the tips at length, read the article, "[Employer Support for Work and Family Balance Reduces Safety Health Risks](#)," which was published in the newsletter TWH in Action!

NIOSH's [Total Worker Health Program](#) is a strategy integrating health protection with health promotion to prevent worker injury and illness and to enhance well-being. Diminished health and injury, whether caused by work or resulting from non-work activities, reduces quality of life, opportunity and income for workers and those dependent upon them. Conversely, workplaces with low risk of injury and enhanced opportunities for the total health of workers can lead to a vibrant, engaged and highly performing work force.

## **Improve Your Mental Toughness in 2 Minutes**

It is no surprise that it takes [stamina and mental toughness](#) to be successful in small business. The truly challenging part is achieving this level over an period of time. [Dr. Jason Selk](#), a performance specialist and author of Executive Toughness, believes that "The way a [person chooses to think](#) will really control the way they behave." Having the right mental focus will lead to more successful business outcomes in the long term. [In my interview with Selk](#), he describes how to train for this mental toughness on your way to becoming a peak business performer.



1. **Focus on solutions.** Selk insists that within 60 seconds of when top-performing people are faced with adversity, they replace the negative thinking with solution-focused thoughts. He points to scientific research that shows people who have "Relentless Solution Focus" (RSF) are "proven to live longer, be happier, and to be significantly more successful." If you fail, cheer the darkness for a minute. Have a pity party if you want, but then focus on the solution. Fortunately, Selk believes that everybody can be retrained to focus on the solutions not the problems.
2. **Seek to control only what you can.** This is very difficult to do in practice. Selk reiterated, "The only thing we can control is how we deal with the past and what we do in the future." Learn what you can, but then take action to get another chance at a successful outcome.
3. **Find one thing you can do differently to make the situation better.** Selk says top performers force themselves "to control what they can control," which is how they deal with adversity. This is difficult, because Selk says humans are biologically built to have problem-centric thought (PCT). In other words, we have a tendency to focus first on the problems not the solutions.
4. **Keep a success log.** Selk thinks we need to ask ourselves what three things did we do well today? Take credit for success, since it can be a barrier against future discouragement. He also says we need to ask ourselves one thing we can improve and how we can achieve it.
5. **Practice the 100-second mental workout.** Selk outlines a 100-second workout that can make every businessperson a better performer. He suggests following these steps. First, take a 6-second breath to center yourself, hold it for 2 seconds, and then breathe out for 7 seconds. Selk says the purpose of this is to control the pressure and "put you in a position where the mind will work as an asset instead of a liability." Step two is to repeat a personal mantra, something that Selk says "really focuses you on who you are, your strengths and what you're capable of achieving." Selk describes the third step in the mental workout as a "personal highlight reel." This is a visualization of where you want to be in five years and what you want to accomplish in the next 24 hours. Think about the actions you need to take today to get this done.



## Make A Paper Airplane? There's An App For That

### Library Of Paper Airplane Designs Available For iOS Devices

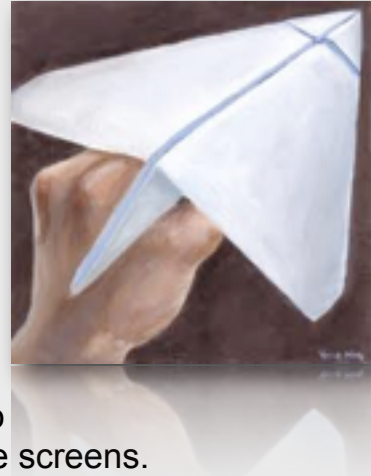
If you're tired of just folding a standard sheet of paper into the familiar delta-shaped paper airplane, then the app "How to Make Paper Airplanes" may be just the [summer diversion](#) you're looking for.

For instance, you might want to try to craft an F-117 Night Hawk or an F-16 Fighting Falcon from paper ... as an alternative to, say, an origami swan while you're watching the clock.

Technewsworld.com reports that the app has about a dozen templates pre-installed, with another 16 available for download. [All are free](#), but if you choose to pay the \$1.99, you can remove the banner ads from the screens.

Once you've picked your design, tap your way through the steps showing how to fold the paper into an airplane. One caveat, though. The app is of European design, so the standard paper size is a bit different than a normal U.S. 8.5 x 11 sheet.

The designs are rated from easy to difficult, and are represented in something resembling 3D. If nothing else, it's something to do when your inbox is empty and you're waiting for the clock to tick down to quitting time.



FMI: <http://itunes.apple.com/us/app/how-to-make-paper-airplanes/id479845845?mt=8&ls=1>

## How to do your best thinking

If you have a problem to solve, you may want to do your thinking in a coffee shop [instead](#) of in a quiet office. A new study shows that a moderate level of noise actually promotes creativity more than silence does, *Science Daily.com* reports.



Researchers from the University of Illinois put groups of volunteers in rooms featuring different levels of restaurant and traffic noise or pure quiet. Then they gave them creativity tests-like asking them to brainstorm ideas. Those who were expose to [moderate levels of noise](#) came up with most original ideas; meanwhile, those exposed to high levels of sound, 85 decibels or louder, fared the worst. Researchers said that a moderately busy environment can make your brain work harder to process your thoughts- which can jar you out of a mental rut.

### Picture This

Y'know, it's bad enough when you prop up your car with a random assortment of whatever happens to be lying around so, just so you can work on the brakes or change the oil. You could get squashed.

Try that approach with crane outriggers, and you can [multiply the possible damage and injuries](#) by ten.

