

Cockpit

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Mit Special
Flugplatzfest
Birrfeld



«Wings & Friends» Grenchen

Flügel machen Freunde



Civil Aviation

Knowledge Management: Park Position
in Aviation

gepert

Mojave Desert at the Youth Camp

Young Generation

Supporting Young Talent

Take your seats

Liebe Leserinnen Liebe Leser

Ein Kapitän geht nach dreissig Dienstjahren in Pension. Er hat Hunderte Routen geflogen, kritische Situationen gemeistert, Crews durch Unwetter geführt und technische Anomalien erlebt. Er kennt Flughäfen zu bestimmten Jahreszeiten, erkennt trügerische Wetterfenster und spürt Teamdynamiken, bevor sie sicherheitsrelevant werden. Am letzten Arbeitstag gibt er seinen Badge ab – und nimmt Jahrzehnte Erfahrungswissen mit nach Hause.

Wissen, welches nie systematisch gesichert wurde. Es steht in keinem Manual, in keinem Schulungsmodul und in keiner Datenbank. Es lebte in einem Kopf, der die Organisation verlassen hat. Zurück bleibt eine Lücke, die schwer messbar, aber potenziell folgenreich ist. Im Gastbeitrag ab Seite 7 erfahren Sie, welche Bedeutung Wissensmanagement in einem Unternehmen beizumessen ist. Aus Erfahrung zu lernen tangiert letztlich die Fähigkeit einer Organisation in Bereichen wie Betriebssicherheit, Ausbildungsqualität oder Resilienz.

Die rund 180 Jugendlichen im Alter von 14 bis 16 Jahren, welche Ende Juli am traditionellen jährlichen Jugendlager (Jula) des Aero-Clubs der Schweiz im Engadin teilgenommen haben, werden sich ihren Erfahrungsschatz erst noch aneignen. Hoffentlich in der Fliegerei, denn mitten in der Engadiner Bergwelt vor schönster Kulisse erlebten sie aus nächster Nähe, was die Luftfahrt für ein späteres Berufsleben für sie bereit hält. Das war so attraktiv, dass sich Fliegerherzen einfach öffnen mussten (Seite 28). Und genau das ist das Ziel, welches für die Stiftung Pro Aero, unter deren Patronat das Jula steht und welche massgeblich zur Finanzierung beiträgt, im Zentrum bleibt: Förderung des fliegerischen Nachwuchses.

Flügel öffnen nicht nur Herzen. Sie machen auch Freunde. Dies bewies die zweitägige Flugveranstaltung unter dem Namen «Wings & Friends» auf dem Regionalflughafen Grenchen, wie die Reportage ab Seite 18 zeigt. «Wings & Friends» verband eindrucksvolle Vorführungen in der Luft mit spannenden Begegnungen am Boden.

Der Flugzeugfriedhof von Victorville wirkt auf den ersten Blick wie die surreale Kulisse eines Hollywoodfilms: In der kalifornischen Wüste stehen Boeing-, McDonnell Douglas- und Airbus-Jets in langen Reihen – manche sorgfältig konserviert, andere bereits teilweise zerlegt. Doch Victorville ist mehr als ein Abstellplatz für ausrangierte Maschinen. Der Standort nordöstlich von Los Angeles ist zu einem wichtigen Teil der globalen Luftfahrtindustrie geworden. Begleiten Sie uns ab Seite 23 dorthin, wo das Klima Flugzeuge konserviert.

Jürg Wyss, Verleger



When experience Leaves the Aircraft

Our guest author, Martin Kellerhals, advises aviation companies on the implementation and further development of knowledge management systems. In the following guest article, he explains why knowledge management in aviation is also becoming a strategic safety requirement.

Knowledge Management in Aviation

EA captain is retiring after thirty years of service. He has flown hundreds of routes, mastered critical situations, guided crews through severe weather, and encountered technical anomalies. He knows airports at certain times of the year, recognizes deceptive weather windows, and senses team dynamics before they become safety concerns. On his last day of work, he hands in his badge—and takes decades of practical knowledge home with him.

This knowledge was never systematically documented. It is not found in any manual, any training module, or any database. It resided in a mind that has left the organization. What remains is a gap that is difficult to measure but potentially far-reaching.

This scenario is not an isolated case. It is a recurring pattern at airlines, MRO facilities, air traffic control organizations, and training institutions. Thus, knowledge management affects more than just efficiency and workforce development. It impacts operational safety, the quality of training, resilience, and ultimately an organization's ability to learn from experience.

Knowledge as Invisible Working Capital

The aviation industry is facing a demographic turning point. In its "Pilot and Technician Outlook 2024–2043," Boeing projects a global demand for 674,000 new pilots, 716,000 maintenance technicians, and 980,000 cabin crew members. These figures do not merely reflect growth. They also highlight the magnitude of the challenge as experienced professionals retire and new personnel must be trained more quickly.

In Europe and North America, a generation of pilots, technicians, and managers will reach retirement age in the coming years

retirement age, having helped shape many of today's procedures, safety routines, and cultural standards. At the same time, geopolitical uncertainty, new operational and work models, digitalization, and AI are rapidly transforming the operational reality. The loss of experiential knowledge is therefore not an abstract management problem. It manifests itself in longer training periods

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This results in wasted time, repeated mistakes, incomplete debriefings, poorer decision-making, and a creeping loss of institutional memory.

What Knowledge Management Really Means Knowledge management often sounds like theory, process manuals, or IT projects. Properly understood, however, it is one of the most pragmatic management tools available to an airline.

In aviation, the difference between explicit and implicit knowledge is particularly clear. Explicit knowledge is found in SOPs, aircraft operations manuals, minimum equipment lists, safety reports, training materials, and technical documentation. It is documented, transferable, and often mandated in regulated environments.

Implicit knowledge is different. It manifests itself in the situational assessment of an experienced captain who recognizes a development on the weather radar that others have not yet properly interpreted. It is evident in the line inspector who deduces clues from a vibration noise before the diagnostic software provides a clear message. This knowledge cannot simply be copied or imported. It must be consciously brought to light.

A key tool for this is the expert debriefing: a structured process in which the experiential knowledge of key individuals is systematically recorded, condensed, and transferred into usable formats—ideally not just on their last day of work, but as a recurring component of the organization.

Knowledge Management Is Security Management

Anyone who leaves knowledge management to the HR department or IT underestimates its strategic dimension. In a regulated and safety-critical industry, it is not an optional optimization measure, but rather part of the operational safety architecture.

Safety management systems require that risks be identified, documented, analyzed, and addressed through appropriate measures. However, an SMS is only as good as the quality of the knowledge that flows into it. If safety-related experiences are not shared—due to a lack of organizational culture, time, or communication channels—a blind spot emerges.

Just Culture plays a key role here. Organizations that foster a fair reporting culture receive more and better information about incidents, near misses, and weak signals. These reports are more than just data. They are collective



Photo:
ZVG

About the Author – Martin Kellerhals

Martin Kellerhals is CEO of KM Knowledge Management International (KMI) in Zurich. He advises companies in the aviation industry and other regulated sectors on the implementation and further development of knowledge management systems. He is also an EFQM assessor, a long-standing lecturer, and an exam expert in the field of knowledge management at universities of applied sciences and higher vocational schools in Switzerland. Among other roles, he is a supporting member of Aerosuisse, a member of the Swiss Association of Aeronautical Sciences at ZHAW and ETH Zurich (SVFW), a member of Pro Flughafen Zürich, a member of the international jury for the Global Most Innovative Knowledge Enterprise (MIKE) Awards, and a member of the Swiss Knowledge Management Forum.

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learning experiences that, when properly analyzed, can reduce future risks.

Crew Resource Management can also be understood as knowledge management in practice. The basic idea of making optimal use of all available crew resources corresponds to the core of organizational learning: identifying relevant knowledge, sharing it, and putting it into action at the right moment.

Digitalization and AI: Catalysts, Not Replacements

Digital knowledge platforms, context-sensitive e-learning modules, intelligent document management systems, and AI open up new possibilities. Predictive maintenance demonstrates how systems can learn from large amounts of data, recognize patterns, and identify anomalies earlier.

However, technology cannot replace experiential knowledge. An AI system trained solely on documented knowledge initially reproduces primarily what is already available in written form. The valuable tacit knowledge of experienced practitioners remains invisible unless it is consciously externalized, structured, and made accessible.

Smart knowledge management therefore does not mean digitizing as much as possible. It means identifying the right knowledge assets, embedding them in contexts relevant to decision-making, and deploying technology where it strengthens learning, safety, and leadership capabilities. Technology follows strategy—not the other way around.

A Leadership Task, Not a Project

Knowledge management does not emerge simply because a wiki is set up or a training session is mandated. It requires leadership commitment: the willingness to treat knowledge as a strategic resource—with accountability, budget, metrics, and a consistent example set by leadership.

Maturity models for knowledge management show that organizations are moving away from ad hoc and unstructured approaches to

These figures don't just describe growth. They also show just how great the challenge becomes when experienced specialists leave and new staff must be brought up to speed more quickly.

knowledge toward learning, knowledge-oriented systems. Many Luftfahrt organizations today likely find themselves somewhere in the middle: not without structures, but still far from consistently managed knowledge.

The effort is worth it. Organizations that actively manage their knowledge learn faster, respond better to change, retain qualified staff longer, and strengthen their safety culture. The call to action for leaders is therefore: Don't wait for the next wave of retirements. Map out critical knowledge. Institutionalize the transfer of experience. Make knowledge management an integral part of your safety and corporate culture. Because the knowledge of an air traffic control organization is not an abstract asset. It is the invisible co-pilot on every flight. 

Martin Kellerhals

References

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IATA: *Global Skills Survey 2023 / Aviation Training Reports*

Michael W. M. Müller: *Knowledge Management: Clear and Concise*, Springer Gabler, 2022.

Five Areas of Action for Aviation Organizations

Institutionalize expert debriefings

Systematically document the experiential knowledge of key personnel who are leaving or who are particularly experienced—using structured interviews, debriefings, and internal knowledge reports.

Create knowledge maps

Identify critical knowledge assets, knowledge holders, and dependencies: Where is specific knowledge located, who can share it, and where do risks lie?

Strengthen communities of practice

Promote thematic networks in areas such as safety, technology, operations, or training to enable learning across departmental boundaries.

Clearly Define Responsibilities

Knowledge management requires a mandate, a budget, goals, and visibility at the leadership level—whether through a Chief Knowledge Officer or clearly defined knowledge managers.

Embed knowledge management in the safety culture

Knowledge transfer belongs within SMS structures, CRM training, just culture practices, and leadership dialogs—not in an isolated HR or IT project.

Martin Kellerhals

