CASE STUDY COMMENT 1
DRAGAN MILANOVSKI

The chances of something going wrong with a carefully parked Trabant 601 on its own at a remote parking lot in the vicinity of an airport are extremely low. Nevertheless, this story is a very good illustration of a famous universal "law" – if anything can go wrong, it will!

Postponing things and always expecting the best is not really the best strategy one could adopt, even if it is based on previous positive experience from similar situations. This is even more significant for complex systems, such as aviation, and especially for systems where the role of human factors is of great importance for ensuring safety.

Although the flight was carefully prepared by the First Officer well ahead of time and the weather was excellent, the crew took too many chances by leaving issues to be resolved later by experience or by hoping for a favourable outcome. Their problems started when they opted to delay the speed reduction due to a "production pressure" on board (passenger asking for a quick landing in a non-pleasant way). Knowing that the runway length was just about enough this was already a step in a wrong direction. The complexity increased when the TCAS RA to climb was triggered. It was already obvious at that time that they would have to intercept the glide slope from above if they were to continue. Despite being confused at what had happened, the crew decided to continue approach. It was based on their experience – they'd done it before. However, this time it was going to be different.

The first opportunity to restore safety was missed when they realised the glide slope indication had disappeared and there was no PAPI either. At this point the crew should have recognised that this was not an ordinary situation and should have "taken a step back" by initiating a missed approach. Instead, the First Officer increased the rate of descent. One thing led to another, a safety warning to pull up generated by the Ground Proximity Warning System was triggered. Finally, the Captain realised they were too fast and instructed the First Officer to make a go-around and circle to the opposite runway. The decision was still based on his prime objective to land as soon as possible – he was not going to deal with cross passengers. The First Officer followed the Captain's decision without questioning it although there was almost no time to recover from the previous attempt and stabilise the aircraft let alone land on a short runway with a 10 knot tailwind.

A very similar situation occurred simultaneously in the control tower. One of the controllers had VFR traffic crossing the final and made an assumption that it was probably not a conflict and decided to deal with it later. The assumption was made on previous experience and the expected average performance of the aircraft type in question. This sometimes can be a risky move, aircraft performance of non-routine flights varies more often than for other traffic, and the deviations from the expected average are more significant. In addition, both controllers were dealing with a more or less permanent system degradation (unreliable stop bar controls), and were distracted by the new cleaner vacuuming the floor in the tower. Despite all of this, they both decided to "wait and see".

Just before the accident, the glide path was unintentionally switched

DRAGAN
MILANOVSKI

is an ATC training expert at the EUROCONTROL Institute of Air Navigation Services in Luxembourg. Most of his operational experience comes from Skopje ACC where he worked for a number of years in different operational posts.

off and this was not noticed by the controllers due to a lack of a warning system. It is difficult to say whether the controllers could have prevented the incident at this point had they been aware of this fact, but it is a good example of how safety needs to be seriously considered at all levels in an organisation. The acoustic alarms had been removed following vociferous complaints from the controllers. Indeed, alarms which go on and off all the time are a distraction. Instead of dealing with the underlying reason as to why alarms go on and off all the time, the organisation had decided to switch them off – problem solved.

A RECOMMENDATION:
There are a large number of direct and contributory factors based on which many recommendations could be suggested, but there is one recommendation which will probably be beneficial to all concerned. I cannot say that the actions taken by all those involved are uncommon or unrealistic. On the contrary, it is in our nature to stay positive for as long as possible while dealing with non-standard issues and sometimes improvising in order to find a solution. Most of us are selected for our abilities to do so. However, we need to be aware that regardless of how creative we are, we must ensure that all possible outcomes are "covered" and if necessary that additional safety buffers are embedded in all our actions. We need to be able to recognise a situation where a change of plan has to be executed in order to ensure safety. It is also human nature not to believe a warning from a safety net when we think we have full control of what is going on. However, ignoring it is usually the worst decision we can make. Regular human factors training as part of refresher or continuation training would increase awareness and help everybody involved to perform safer in the future. I hope it will also help Brent understand how it is nobody's fault that his impressive two years' hard work on the Trabant 601 was in vain.

CASE STUDY COMMENT 2
CAPT. ED POOLEY

The type of task-completion pressure which the Captain of an aeroplane conducting an ad hoc flight like this one might be vulnerable to is rather different to that of the Captain of a repetitively-scheduled airline sector...

Meeting whatever nominal schedule which has been planned not infrequently becomes a get-there-as-soon-as-possible task. This story is a classic case of that scenario – and although a low speed collision with a particularly frangible stationary object is not a normal outcome, the rate of 'near misses' generated by this sort of flying is certainly much higher than for airline operations overseen by the same safety regulator.

Probably the main reason is that more tactical decision making is routinely required – especially when running late as in this case. "Can do" makes reputations everywhere if it is accompanied by no (obvious) loss of operational safety. And, perhaps surprisingly, good weather as prevailed here also tends to figure in the history of poor pilot judgement.

So, we start with a rushed departure which provides the context for subsequent judgements. The first decision to delay speed reduction in response to 'pressure' from the passengers sets the scene. Then the unexpected TCAS RA spoils the plan and there is insufficient recognition of its consequences in terms of vectoring to the ILS by both the pilots and the controller. The aircraft establishes on the localiser but continues above the glideslope and without reducing speed yet all but a relatively small number of large transport aeroplane types should expect to be at 160 knots by an Outer Marker position. And anyway, even in the absence of prescribed operator procedures, all aeroplanes should be fully established on an ILS approach by that point. Going down whilst slowing down is not always easy.

Loss of the glideslope signal on a nice day should not in itself worsen the situation. And neither should the absence of the PAPI in those circumstances. Any professional pilot should be able to recognise the normal visual runway perspective, if necessary adjusting for runway width. However – and it would probably have happened anyway – the attempt to regain a normal approach path resulted in a rate of descent which was sufficient to trigger a "hard" EGPWS 'PULL UP' Warning. Although we are not told at what height over terrain the hard warning occurred at, since no prior EGPWS "Sink Rate" Caution is mentioned, this hard warning must have resulted from a pretty sharp pitch down. So even with the runway in sight and maybe without a prescribed Operator procedure to automatically initiate a maximum rate of climb recovery, such a response on the first warning seems likely to have been the obvious