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Making Risk Management Adaptive to a Faster, Taller, Bigger World: the Critical Power of Early Warning

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Faster, taller, bigger: the world is moving at a quick pace, in all directions. Of today's 30 tallest buildings, only 10 were built before 2000. Five had been added by 2009. This makes 15 having been built between 2010 and today... And while the tallest skyscrapers nowadays soar 800 meters into the skies, plans are under way to go even higher with more than 1,000 meters—the Kingdom Tower in Saudi Arabia, to be completed by 2019. These are just examples of the constant cycle of record-setting and –busting we are experiencing, in all walks of life. Much of this correlates with the two engines of growth, the economic expansion of the emerging markets on the one hand, and the rapid progress we see in the fields of science and technology on the other hand: biology and genetics, IT, robotics and sensors, nanotechnology, artificial intelligence, among others. Growth seems no longer linear, but exponential.

What does this mean for risk management? When the world is moving faster, we have less time to react to avoid accidents. And as the world is travelling further into spaces it has not been before, we must think about possible events and their effects which have not occurred yet—and may never occur. And so, in order to paraphrase Herman Kahn and his famous tagline of "thinking the unthinkable" (in his case, of global thermonuclear war), we need to "think the never thought before" when we are considering a new risk landscape deriving from the "faster, taller, bigger" spiral. Obviously, to measure tomorrow's exposures, we can no longer simply extrapolate into the future from what we saw in the past.

The Chief Risk Officer Forum (CRO Forum), which assembles the Chief Risk Officers of 25 insurance and reinsurance companies (mostly from Europe), has now come up with its newest publication addressing exactly these issues.¹ It gives a high-level overview and seeks an industry consensus on what the issues are at stake and what needs to be done.

Swiss Re entered the field of early risk detection in the late 1990s. It has built up a system to collect and process notions associated with risk (SONAR).² Input is provided both by internal and external sources: Swiss Re underwriters, risk and claims managers in the first case; a plethora of experts in the second case (scientists and university researchers, industry bodies, futurists, but also public organisations like the World Economic Forum (WEF) and its annual *Global Risk Report*³). The findings are widely shared internally and externally. Since 2013, Swiss Re has published its annual SONAR Scan bulletin.⁴ The bulletin deals with new risk themes, grouped according to their perceived potential impact on the (re)insurance industry. Obviously, dealing with emerging risks whose contours are by definition vague and opaque at the moment of detection is not—cannot be!—an exact science. Essentially, it is about the non-quantifiable or, more precisely, about the pre-quantifiable. Yet, while the benefits of new developments are often visible upfront, there normally is a time lag for the arrival of the first, unintended negative

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¹ <http://www.thecroforum.org/15722/>

² http://www.swissre.com/rethinking/emerging_risks/swiss_re_ahead_of_the_curve_in_charting_emerging_risk.html

³ http://www3.weforum.org/docs/WEF_GlobalRisks_Report_2014.pdf

⁴ http://www.swissre.com/rethinking/emerging_risks/Swiss_Res_SONAR_new_emerging_risk_insights_for_2014.html

effects. The findings of the SONAR Scan help Swiss Re to shape its business policy and strategy. More importantly, they are also the subject of discussions with clients—the primary insurers who often are much closer to initial exposures emanating from emerging risks. Understanding risks early is the first step in finding a solution for managing and mitigating them collaboratively with clients.

The consequences of the “faster, taller, bigger” trend as addressed in the CRO Forum report are also reflected in the findings of the SONAR Scan. Take, for example, air pollution as a mortality driver. Much of the growth in emerging markets is driven by the dual processes of industrialisation and urbanisation—processes that Europe and North America already underwent in the 19th and the first half of the 20th century. The number of megacities—metropolitan areas with 10 million or more inhabitants—is set to rise from 20 in 2011 to 37 in 2025, of which 30 will be located in emerging markets.⁵ Industrialisation and mass motorisation turn air pollution into a major health hazard in these sprawling megalopolises and, in some Chinese cities, it has now the same impact on mortality as smoking, reducing average life expectancy by three to five years.

This highlights an important feature: air pollution is, of course, not a new risk as such. Just think of the “smog” in U.K. or U.S. cities in the 1950s and 1960s. Often, emerging risks are not new as such, but they (re)appear in new and different contexts. With man-made risks, norms and laws can change and thus shift the burden from one party to another.

Research shows that human failure—the famous human factor!—is the key driver for many losses. In an ever more complex world, this looms large and poses a major challenge to the future of risk and safety management. As margins of error diminish in an interconnected, super-efficient environment, loss prevention is critical. This requires investments which, in tight cost-management regimes, tend to be disputed as “unnecessary” and “not producing a return”, and therefore, are often not happening at all or only at insufficient levels. But when investments are made, and at sufficient levels, they must meet a dual goal: on the one hand, they must prevent losses; on the other hand, they must enhance resilience. These goals may appear contradictory, but as total loss prevention can never be assured, risk management must strive to meet both goals. Consequently, the key is collaboratively to design and develop flexible systems that are as safe as the ones we have today. A safe system needs a certain set of factors: the right protocols, the right data, the right working conditions, appropriate risk assessments, a solid lessons-learned process, and—perhaps most importantly—rich human communication, face-to-face and preferably integrating local cultural particularities (making sure people of different cultures talk about the same topics when they talk to each other; simply sharing the same meeting agenda may not suffice!).

The (re)insurance industry is instrumental in this process, both as an adviser in loss prevention and a source of indemnification should disaster still strike. Over the last years, it has contributed to critical documents that should help to cope with the complexities and intricacies of “faster, taller, bigger”. Examples include the “[Tunnelling Code of Practice](#)”⁶ or the European Wind Turbine Committee’s “[Offshore Code of Practice](#).”⁷ Joint development of critical guidelines can be successful in managing a rapidly moving risk landscape imbued by the mind-boggling progress in technology, the economy and society at large.

⁵ http://media.swissre.com/documents/sigma5_2013_en.pdf

⁶ http://www.imia.com/wp-content/uploads/2013/08/ITIG-TCOP-01_05_2012.pdf

⁷ http://vds.de/fileadmin/vds_publikationen/vds_3549en_web.pdf