

Project supervisors must know 'basic construction physics'

Competence on construction sites means knowing when uncertainty becomes dangerous, says Robert Musumeci

Opinion

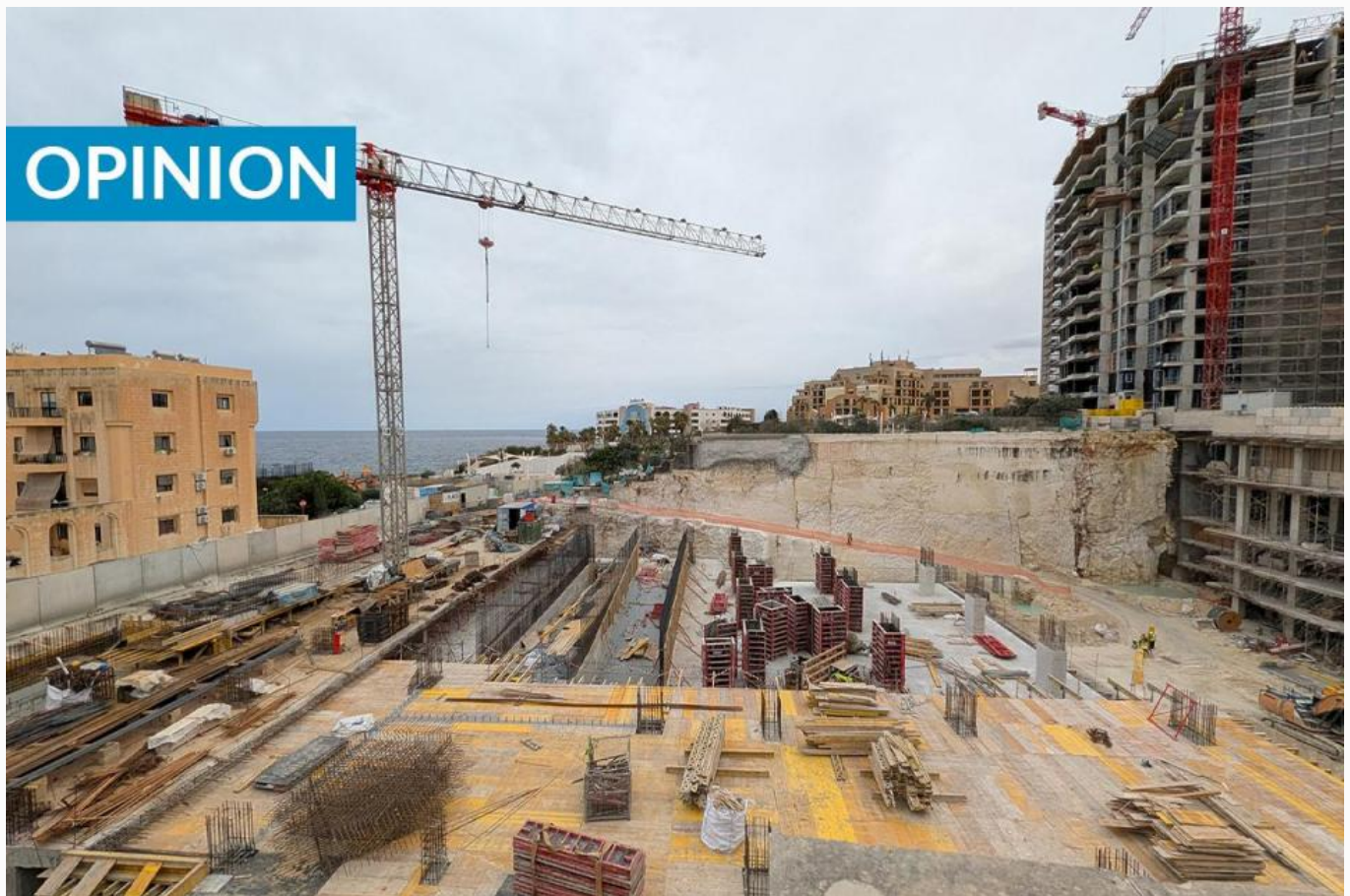
Comment

Construction

Health

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 3 min read



A new law marks a deliberate shift away from the older legislative framework governing construction safety. File photo

The recent introduction of the Health and Safety at Work Act (chapter 646 of the Laws of Malta) and the Health and Safety at Work (Minimum Health and Safety Requirements for

Work at Construction Sites) Regulations (S.L. 646.27) marks a deliberate shift away from the older legislative framework governing construction safety.

Under the previous regime, it was often possible, sometimes successfully, to argue that the responsibility of a project supervisor for health and safety on construction sites stopped short of technical matters.

The supervisor coordinated, recorded, and reported, but did not intrude into domains perceived as 'engineering'.

Incidentally, part of the public debate following the Sofia Inquiry revolved around the assertion that health and safety supervisors are not expected to 'know structures'. For some, this statement was shocking. What was probably meant is that project supervisors are not expected to calculate load paths, verify reinforcement schedules, assess soil bearing capacity, or certify structural adequacy.

The new framework found in S.L. 646.27, however, now expressly requires the Project Supervisor for Health and Safety to be a "competent person". Does this mean that the supervisor is now expected to be competent to resolve every technical risk personally? The answer is no.

Rather, the supervisor ought to be competent to recognise when a risk exists, to appreciate when that risk has become safety-critical, and, most importantly, to know who must address it and to ensure that works do not proceed until that happens. Competence, in this sense, operates at the boundary between knowledge and uncertainty.

Requirements such as the inspection and certification of scaffolding by a competent person before use illustrate the point. The law does not assume that the project supervisor personally certifies scaffolding as structurally sound. It assumes, however, that the supervisor is competent to understand that scaffolding is a high-risk temporary work, that its safety cannot be presumed, and that the absence of proper verification is itself a reason to stop work.

A simple analogy helps to sharpen the distinction.

If I board an aircraft and hear an unfamiliar bleep, yet do not even register that the sound might mean something, if it fades into the background, unworthy of attention, then the problem is that I lack competence at the most elementary level: the capacity to recognise that a signal exists at all, that it may carry risk, and that unrecognised uncertainty can be more dangerous than a known fault.

In such a case, incompetence lies not in the inability to explain the bleep, but in the failure to realise that it demands explanation before anything else happens. The fault is not only misdiagnosed: it is not even acknowledged. Motion is allowed to continue because doubt was never permitted to surface. True competence, by contrast, lies in knowing enough to sense when something is abnormal and potentially dangerous, even if one does not understand the detailed intricacies.

“ *The supervisor ought to be competent to recognise when a risk exists*

- Robert Musumeci

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That is precisely how health and safety laws expect 'competence' to function on construction sites when it comes to project supervisors. The project supervisor on a construction site is not competent because he knows everything. He is competent because he knows when not knowing has become dangerous. He must be able to recognise when safety depends on facts that are currently unknown or unverified, whether relating to ground conditions, temporary works, demolition sequencing, or the effects of design changes, and to treat that uncertainty as a trigger for escalation rather than as a reason for inaction.

Needless to say, construction sites are saturated with assumptions: that the ground will support heavy plant, that temporary works are adequate, that demolition will not destabilise adjoining structures, that changes in sequencing will not alter load paths.

None of these assumptions is inherently unreasonable. What is unreasonable is allowing work to proceed when such assumptions have become safety-critical and remain unverified.

Project supervisors, in their role as competent persons, need to identify that transition point and to act decisively when it is reached.

But this requires what might be described as a basic level of 'engineering literacy'. Meaning that the project supervisor must understand certain elementary truths of construction physics: that loads travel through structures and into the ground, that the removal of supports alters stability, and that cranes impose concentrated forces capable of overwhelming soil.

Without this foundational understanding, the statutory power to halt works becomes hollow.

Supervision then degenerates into procedural compliance, into form-filling, and the project supervisor risks becoming little more than an added regulatory cost, producing minimal difference to site safety.



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