This methodology is based on a combination of more theoretical approaches. We defined the scales and the mathematical calculations by the best practices and conventional directives of quantitative techniques. We have to highlight the logarithmic scale is important in visualization, nevertheless, the correlation among the summed values is exponential just like in the dBa scale (sound pressure) or Richter Scale (earthquake amplitude).

NOTES:

* Venue Security Circle: in the conventional VAC there are 4+1 security zones, which are called Phases. This cannot be used in its original form, thus we redefined and extended the nomination of security circles, which are the following:
  + safe zone/panic room (not defined in VAC) : this is the designated place for invacuation, the vulnerability of this zone depends on the building’s architectural characteristics and the accessibility of this place or these places in the venue.
  + main building (same in VAC Phase 5/6)
  + yard inside (same in VAC Phase 4)
  + entrances: regarding the conclusions of the main attacks against religious buildings in the past years we had to define this circle independently from other zones. This zone is a very critical point where public and private places are connected, thus these places can be the edges of legal, technological, and conceptual approaches.
  + parking lot (same in VAC Phase 2)
  + perimeter (same in VAC Phase 1)
  + outskirt: (not defined in VAC): this area can be called ‘seam zone’ which defines well that the threats are less dense but widely can appear. People on their way to the venue, or when they are leaving it are in danger if they can be connected to the venue or event (close public transport stations, meeting points, traffic junctions).
* Weight matrices of damage: the weight matrices are important to calculate the relevant risk in each security zone with regard to all potential cases of attacks (PCA). Meanwhile, the likelihood of each attack will be chosen by the interviewed personals until then the vulnerability of the circle from the given PCA is predefined by security experts. These matrices can be adaptive to priori attributions defined in Vulnerability by Sensitivity (size, usage, structure) in the case of special venues.
* Likelihood of PCAs: these probabilities are chosen by local personnel who must be familiar with the neighborhood, the criminality trends in the region, and passed or attempted attacks in the country.
* PCA Risk: this is a generated value from the multiplication of likelihood and the damages by security circles. The average value of each security circle will represent the venue/event/facility in the general risk assessment. The generated values after logarithmization can be compared as more spectacular, thus we use ten based log function.
* Protection: with regards to the general approach of risk assessment the initial risks have to be calculated without any means of protection (security measures, guards, police, etc.). The main security measures are decreasing the risk, thus the given general view about the relevant risks is more realistic. To evaluate the effectiveness of main security measures these measures can also reveal new *damage weight matrices*, but this step has to be investigated in the upcoming studies by relevancy.
* Final risk with protection: this value is very symbolic, but can be used as a key performance indicator to compare the venues/facilities/events into each other by the standardized approach of risk calculation.