What Does DAEdalon Mean? — Background for Computational System — and Greek Mythology

- **DAEdalon**
  Some years ago, in 2000, as we started with the basic concept and architecture of DAEdalon, along with the main, first focus of the FE system — namely the numerical treatment in the sense of a global system of *Differential Algebraic Equations*, see Eckert et al. [2003] and Ellsiepen & Hartmann [2001] — we intend to find a senseful name, which was also available to be used as web domain. Because, already at the beginning, it was clear to open the source of that code; on the one hand to give an easy as possible contact to the topic and to the basics of the FEM, which are published in many very good articles and other books; on the other hand to get the possibility of a broad community using and optimize the code within a diploma thesis, a PhD thesis or just in daily use. So, the artificial name DAEdalon seemed to fulfill our ideas and conditions nicely. At the same time, that name remembers quite well on the famous Greek “engineer” and his ideas.

- **Daedalus & Ikarus**
  *A partly reformulated text from Wikipedia, the free encyclopedia*
  Daedalus was a most skillful artificer and was even said to have first invented images. He is first mentioned in Homer, where he built for Ariadne a wide dancing-ground (Iliad xviii.591). Homer still calls her by her Cretan title, the ”Lady of the Labyrinth” (Iliad xviii.96) which DAEDALUS also made, in which the Minotaur was kept and from which Theseus escaped by means of the thread clue of Ariadne. Ignoring Homer, later writers envisaged the labyrinth as an edifice, and rather than a single path to the center and out again, gave it numberless winding passages and turnings opening into one another, seeming to have neither beginning nor end. DAEDALUS built it for King Minos, who needed the labyrinth to imprison his wife’s son: Asterius, the Minotaur. DAEDALUS had built for Minos’ wife, Pasiphae, a wooden cow so she could mate with the bull, for the Greeks imagined the Minoan bull of the sun to be an actual, earthly bull. Athenian pride made of DAEDALUS the grandson of the ancient king Erechtheus, who fled to Crete, having killed his nephew. Following other anecdotes,
DAEDALUS was shut up in a tower to prevent his knowledge of the labyrinth from spreading to the public. He could not leave Crete by sea, as the king kept strict watch on all the vessels, and permitted none to sail without being carefully searched. Since Minos controlled the land and sea routes, DAEDALUS set to work to fabricate wings for himself and his young son Icarus. He tied feathers together beginning with the smallest and adding larger, so as to form an increasing surface. The larger ones he secured with thread and the smaller with wax, and gave the whole a gentle curvature like the wings of a bird. When at last the work was done, the artist, waving his wings, found himself buoyed upward and hung suspended, poising himself on the beaten air. He next equipped his son in the same manner, and taught him how to fly. When both were prepared for flight, DAEDALUS warned Icarus not to fly too high, because the heat of the sun would melt the wax, nor too low because the sea foam would make the wings wet and they would no longer fly. Then the father and son flew away. They had passed Samos, Delos and Lebynthos when the boy began to soar upward as if to reach heaven. The blazing sun softened the wax which held the feathers together, and they came off. Icarus fell into the sea. His father cried and bitterly lamenting his own arts, called the land near the place where Icarus fell into the ocean Icaria in memory of his child. DAEDALUS arrived safe in Sicily in the care of King Cocalus, where he built a temple to Apollo, and hung up his wings, an offering to the god. Minos, meanwhile, searched for DAEDALUS by traveling from city to city asking a riddle. He presented a spiral seashell and asked for it to be strung all the way through. When he reached Camicus, King Cocalus, knowing DAEDALUS would be able to solve the riddle, fetched the old man. He tied the string to an ant, which walked through the seashell, stringing it all the way through. Minos then knew DAEDALUS was in the court of King Cocalus and demanded he be handed over. Cocalus managed to convince Minos to take a bath first. Cocalus’ daughters then killed Minos. DAEDALUS was so proud of his achievements that he could not bear the idea of a rival. His sister had placed her son Perdix under his charge to be taught the mechanical arts. He was an apt scholar and gave striking evidences of ingenuity. Walking on the seashore he picked up the spine of a fish. Imitating it, he took a piece of iron and notched it on the edge, and thus invented the saw. He put two pieces of iron together, connecting them at one end with a rivet, and sharpening the other ends, and made a pair of compasses. DAEDALUS was so envious of his nephew’s performances that he took an opportunity, when they were together one day on the top of a high tower, to push him off. But Athena, who favors ingenuity, saw him falling, and arrested his fate by changing him into a bird called after his name, the partridge. This bird does not build his nest in the trees, nor take lofty flights, but nestles in the hedges, and mindful of his fall, avoids high places. For this crime, DAEDALUS was tried and banished.