

The Legacy of Unsustainable Software
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Abstract: Software has been developed for decades without taking sustainability into consideration. This holds for its energy efficiency, that is the amount of energy software consumes while ensuring other system qualities like security, performance, reliability, etc. etc. Software un-sustainability, however, is becoming increasingly evident with the growing interest worldwide. Finally IT specialists are becoming aware that software solutions can, and should, be designed with sustainability concerns in mind. In doing so, they can create solutions that are technically more stable (hence requiring less modifications over time), target societal goals with a higher certainty, or help sustaining the business goals of both developing and consuming organizations. Everything sounds great. The real question is, how? How can we redirect software engineering practices toward sustainable software solutions? How can we turn sustainability into a business so that companies will finally invest in it? Based on various case studies in collaboration with industry, this talk explores software sustainability from a technical perspective: results, challenges, and lessons learned will be included for interactive discussion.

Bio: Patricia Lago is professor at the Vrije Universiteit Amsterdam, the Netherlands, where she leads the Software and Services research group in the Computer Science Department. Her passion in research is to create software engineering knowledge that makes software better, smarter, and more sustainable. Her philosophy is that research should be industrial-relevant and serve the final purpose of being applied in practice. To this end, her research specifically focuses on the 'real' needs of practice by establishing collaboration with partners from both private and public sectors. She has a PhD in Control and Computer Engineering from Politecnico di Torino and a Master in Computer Science from the University of Pisa, both in Italy. She is member of the Steering Committees of IEEE/IFIP WICSA, ECSA and the ICT4S conference series, member of the IFIP 2.10 Working group on Software Architecture, the IFIP 2.14 Working group on Services-based Systems, and the Dutch Knowledge Network on Green Software. She has published in all major conferences and journals of her field. Her research and teaching are about software architecture, software design and modeling, software quality assessment. She is initiator and coordinator of the Computer Science Master Track in Software Engineering and Green IT. She co-founded the Green Lab, a place where researchers, students and companies collaborate to measure the energy footprint of software solutions. More information online at www.cs.vu.nl/~patricia and www.s2group.cs.vu.nl.