Embedded Software systems have been under intensive study since the late 1980’s. First in
Computer Engineering, then in Computer Science it was felt that software and hardware
development had to somewhat explicitly respect environmental influences such as e.g. the
environmental timing requirements, say in automatic railway signal control. While this resulted
broadly in real-time systems research the experiences from practice-related work like in aviation
or outer space projects led to an understanding that environmental issues like reliability,
dependability, fault tolerance had equally to be taken into account as crucial yet often even
conflicting aspects of the reality to be modeled. In addition, whenever software agents were
designed to exert coordinated control as representatives of human or electric actors the sheer lack
of global information, or at least of such information in due time, like in efficient power grid
control, brought about the issue of distributed control, thus of distributed embedded systems.
The 3 contributions accepted for this session shed some light on research in this field which is new
for SEAA. In the context of distributed timed multi-tasking the authors of the first paper (C.
Angelov, K. Sierszecki, F. Zhou) deal with a novel software framework for composing
distributed application components, eventually allowing actor tasks to be composed from pre-
fabricated components. In the second paper, B. Zhang gives a very comprehensive formal
correctness discussion and proof for the FlexRay clock synchronization protocol which has been
used for quite a while in industry. The last contribution (by H.F. Wedde, S. Lehnhoff, C.
Rehtanz, O. Krause) leads even beyond the paradigm of distributed embedded systems: Dictated
by research and development problems in very complex application systems over the past few
years researchers became aware not only of more relevant design or analysis issues: A major
novel requirement for a closest possible relationship of application and software process
structures (ideally something like their congruence) is evolving, under the notation of Cyber-
Physical Systems. This is demonstrated in the example of future traffic systems, as an upcoming
theme for follow-up conferences.

I would like to thank all authors for their valuable contributions, and I am looking forward to
the presentations.