



Episode #10 – How to think like Elon Musk – Scrum for Hardware, with Joe Justice of WIKISPEED and Scrum Inc, USA

KEY TAKEAWAY*

- Scrum to decrease cost and time of innovation → book “Scrum: the Art of Doing Twice the Work in Half the Time”
- Story of Nokia’s death: following the five year plan with waterfall dev they failed to react to the changing market (iPhone in 2007) → in 2013 Microsoft acquiring leftover of Nokia
- Acc. Forbes, all the top 10 IPOs use Scrum
- Hardware areas with scrum: rockets, automotive, construction, medicine, military
 - Companies: Bosch, Boeing, Airbus, Ford Europe, Mercedes Benz, BMW, Apple, Saab Defence, Saab Aviation (Gripen jet fighter built in one-week sprints, six months releases), Raytheon, Tesla
- For startups, SMEs
 - Advantage: for a group of <5 people → a very healthy Scrum team’s composition
 - When startup gets larger than 5 people: scrum training to all
 - Best teams are co-located, 80% stable, collaborative, cross-functional
- His hobby company: WIKISPEED Inc
 - In 23 countries
 - Anyone can edit their CAD drawings, then audited, build servers manufacturing it
- Scrum using XP practices (Extreme Production practices in HW or Extreme Programming in SW)
- Widespread beliefs about bottlenecks for spreading scrum
 - Tooling → but today there’s dynamic tooling (built-in flexibility); 3D printing the final part, or 3D printing the tooling
 - Not possible to have sprints less than three years because of high cost of tooling → but cost of manpower during those 3 years also high → DECREASE sprint as much as possible → less manpower (even if tool cost is high using prototyping)
 - Policy: write a policy which accelerates the Agile Manifesto, the 11 laws of Scrum
- How can leaders motivate team so they do not give a too comfortable project timeline?
 - In traditional waterfall project-manager “motivating” with aggressive timelines → but such teams usually don’t ship
 - In scrum: make success visible to the team (burn-down chart, Scrum board)

* excludes the “ultrafast round”