

Image credit: INCOSE. (Retrieved 2019, May 21). *Systems Engineering Certification Levels* [digital image]. Retrieved from <https://www.incose.org/systems-engineering-certification>

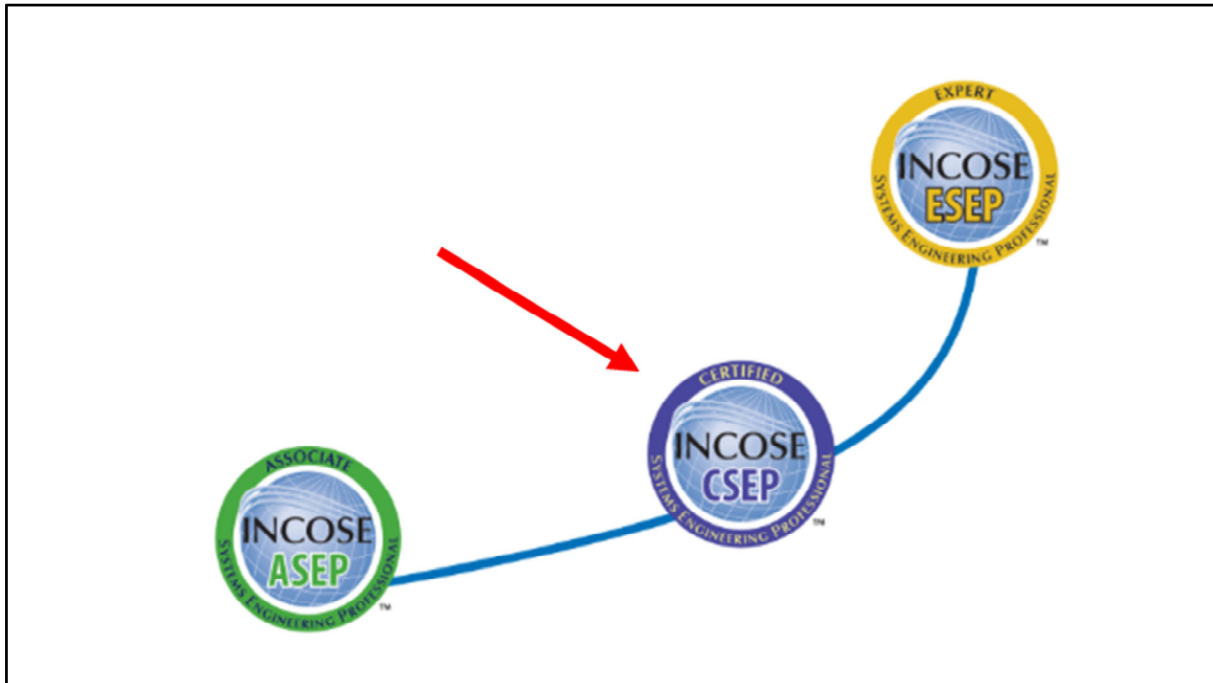


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Photo credit: University of Rochester. (2015, June 22). *Pitcher throwing a baseball* [digital image]. Retrieved from <https://www.rochester.edu/newscenter/how-understanding-gps-can-help-you-hit-a-curveball/>

The INCOSE created a working group for Agile Systems and Systems Engineering. Its goal is to create a body of knowledge for systems to operate “....in environments of caprice, uncertainty, risk, variability, and evolution.”

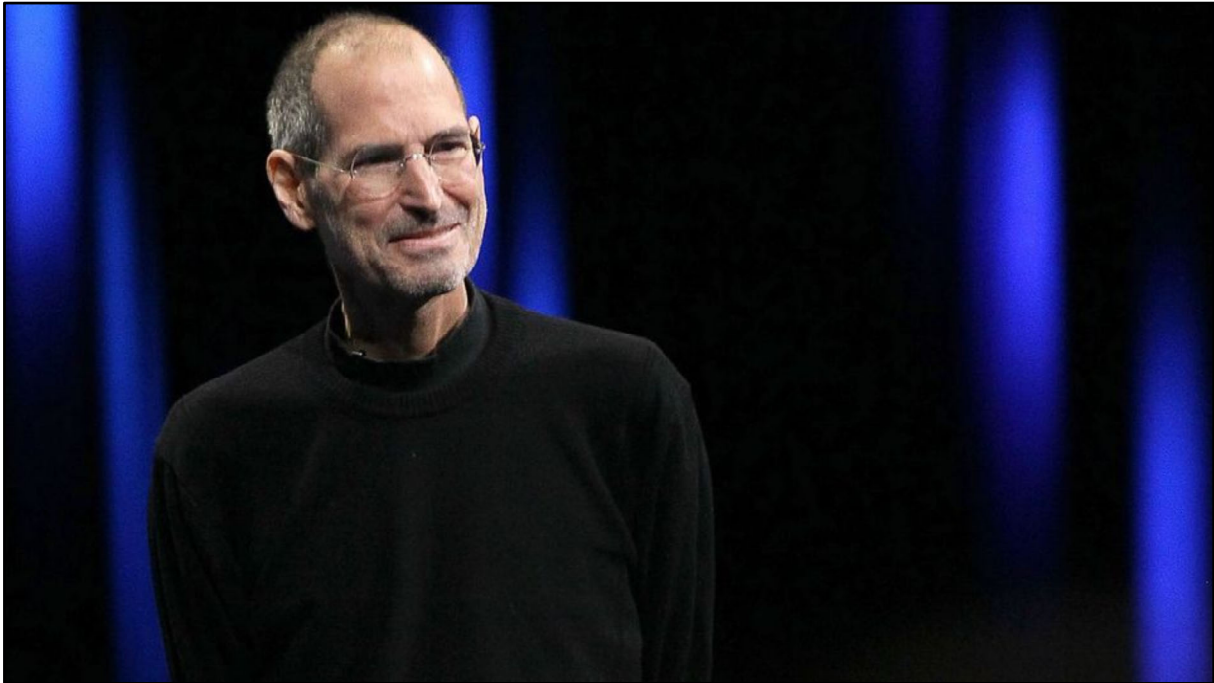


Photo credit: The Wall Street Journal. (2011, October 6). *Steve Jobs Dies at 56* [digital image]. Retrieved from <https://www.wsj.com/articles/SB10001424052702304447804576410753210811910>

"Some people say, 'Give the customers what they want.' But that's not my approach. Our job is to figure out what they're going to want before they do. I think Henry Ford once said, 'If I'd asked customers what they wanted, they would have told me, "A faster horse!" ' People don't know what they want until you show it to them. That's why I never rely on market research. Our task is to read things that are not yet on the page."

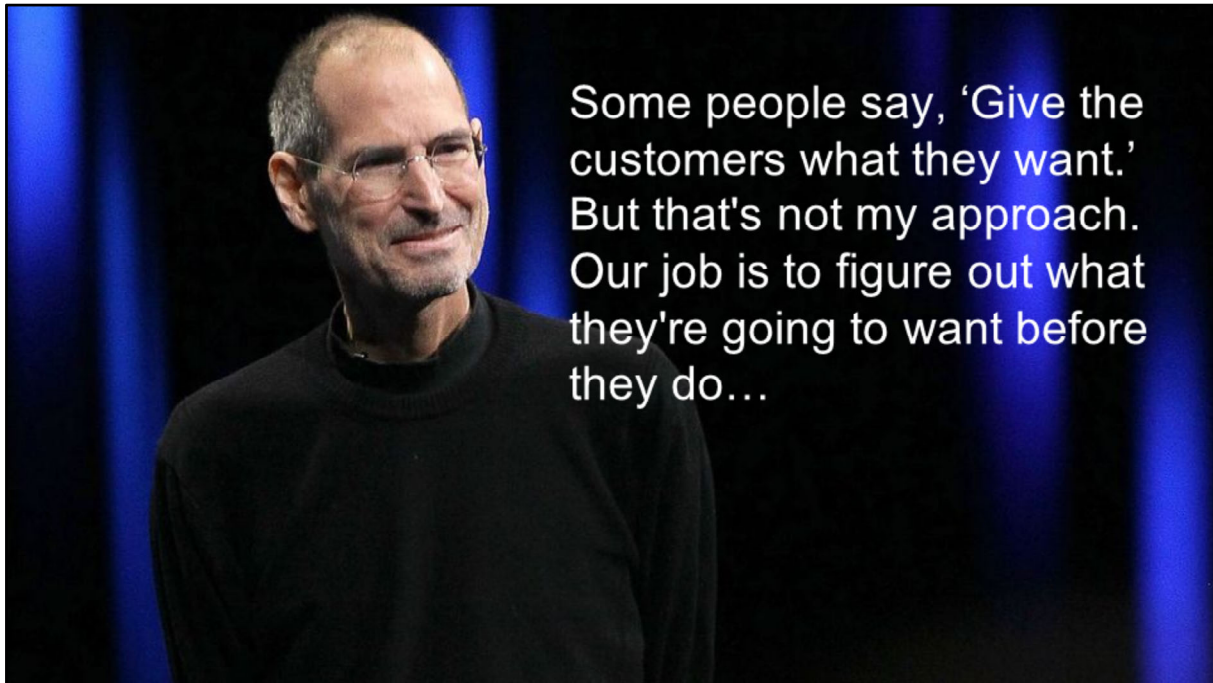


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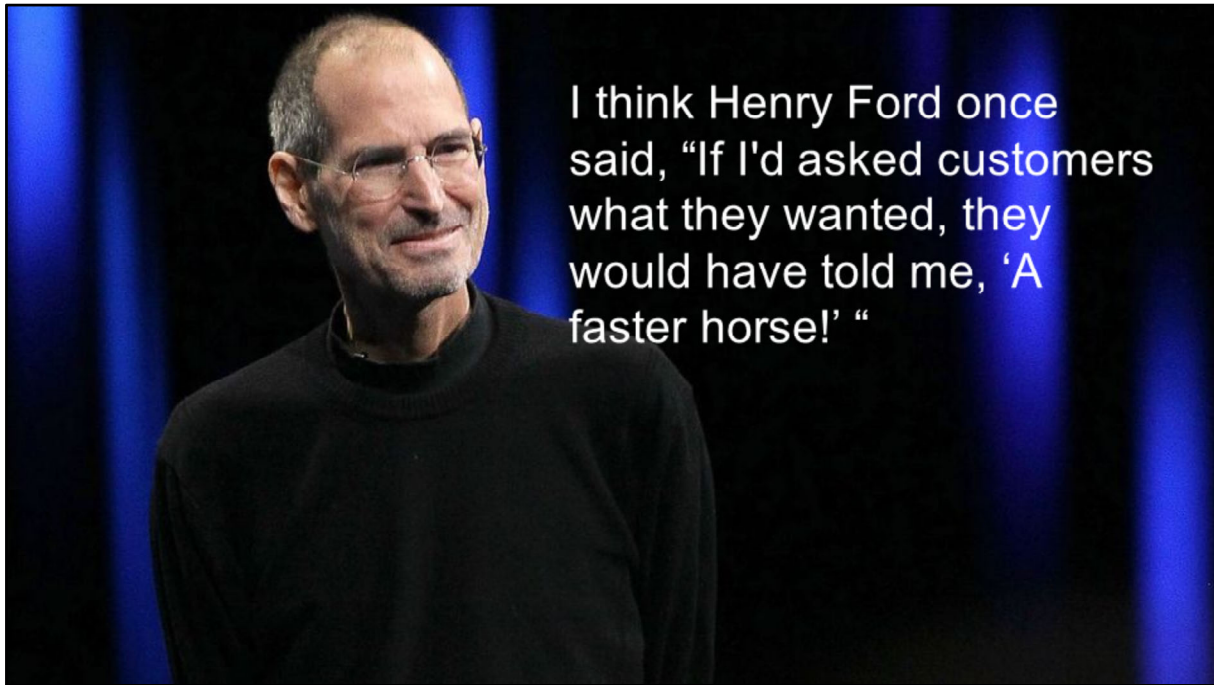


Photo credit: The Wall Street Journal. (2011, October 6). *Steve Jobs Dies at 56* [digital image]. Retrieved from <https://www.wsj.com/articles/SB10001424052702304447804576410753210811910>

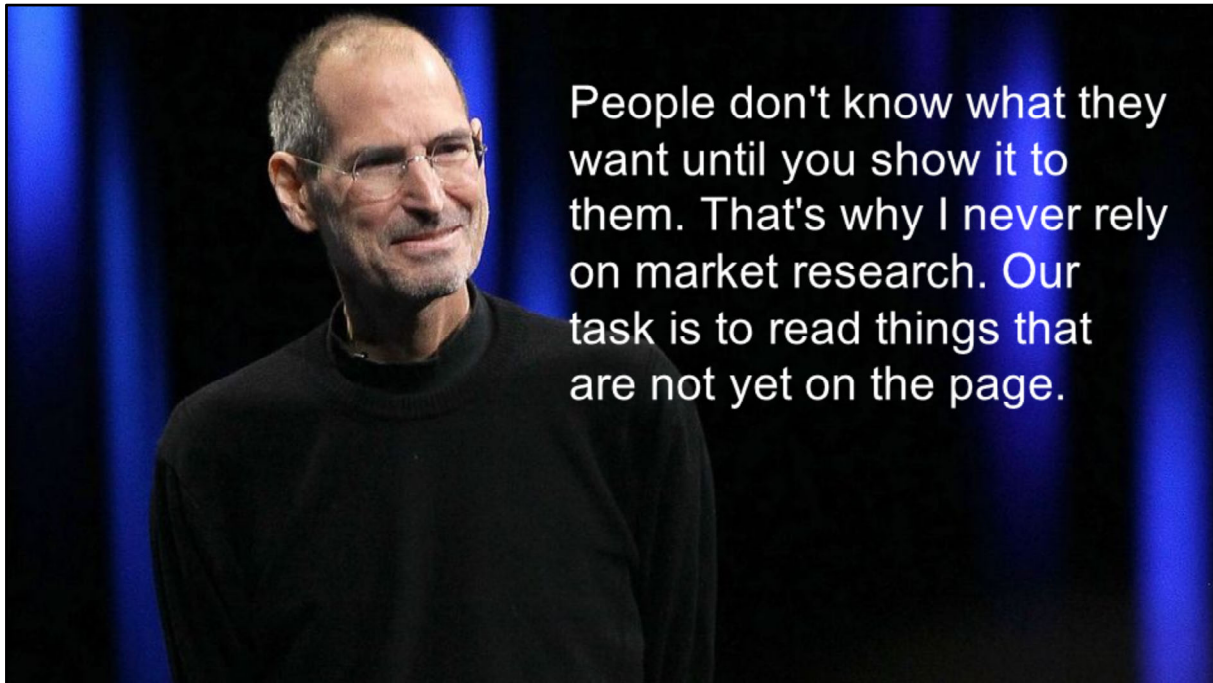


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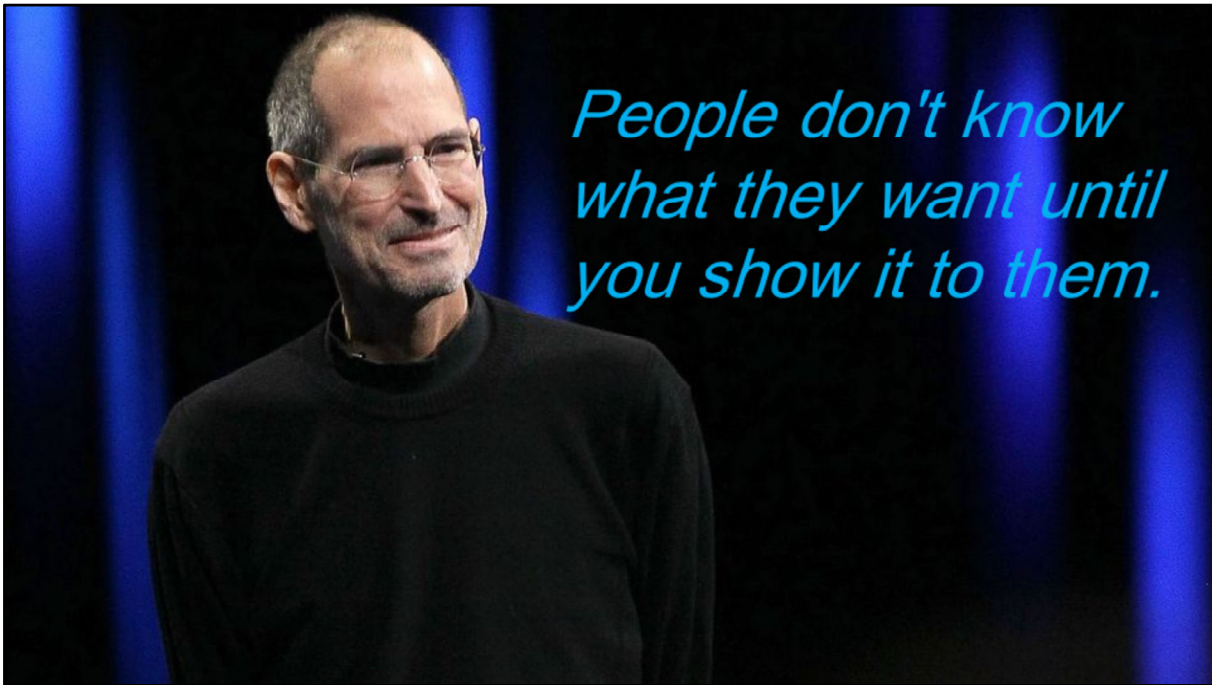


Photo credit: The Wall Street Journal. (2011, October 6). *Steve Jobs Dies at 56* [digital image]. Retrieved from <https://www.wsj.com/articles/SB10001424052702304447804576410753210811910>



Photo credit: Scrum Alliance. (2018, October 25). *Image for jeff sutherland* [digital image]. Retrieved from https://www.youtube.com/watch?v=qaFSTSW_6Uo

The first video linked from this slide introduces the philosophy behind Agile, from Agile Manifesto co-author Jeff Sutherland: <https://www.youtube.com/watch?v=s4thQcgLCqk>

The second video is a brief introduction to the Scrum practice: <https://www.youtube.com/watch?v=9TycLR0TqFA>

An additional video not linked from the slide image is also a good introduction to Scrum: <https://www.youtube.com/watch?v=XU0lIRItyFM>



Photo credit: MLB Advanced Media, LP. (2017, April 26). *Must C: Coghlan's acrobatic leap* [digital image]. Retrieved from <https://www.mlb.com/cut4/photos-chris-coghlan-leaps-over-yadier-molina-to-score-run/c-226588738>









Roles	Core	Advanced
Agile Change Agents Consultants	<i>Relevant experience of agile and scaling agile</i>	Implementing SAFe® 4 days  SAFe 4 Certified Program Consultant
Executives Managers Stakeholders	Leading SAFe® 2 days  SAFe 4 Certified Agilist <i>Lean-Agile Leaders</i>	
Release Train Engineers / Value Stream Engineers		SAFe® Release Train Engineer 3 days  SAFe 4 Certified Release Train Engineer
Product Managers / Product Owners	SAFe® PO/PM 2 days  SAFe 4 Certified Product Owner/Product Manager	
Scrum Masters	SAFe® Scrum Master 2 days  SAFe 4 Certified Scrum Master	 OR CSM, PSM, other → SAFe® Advanced Scrum Master 2 days  SAFe 4 Certified Advanced Scrum Master
Teams	SAFe® for Teams 2 days  SAFe 4 Certified Practitioner <i>Agile Teams</i>	

Image credit: ScaledIQ Consulting. (Retrieved 2019, May 21). *SAFe Certifications* [digital image]. Retrieved from <http://www.scalediq.com/scaled-agile-framework/>









Roles	Core	Advanced
Agile Change Agents Consultants	<i>Relevant experience of agile and scaling agile</i>	Implementing SAFe® 4 days  SAFe 4 Certified Program Consultant
Executives Managers Stakeholders	Leading SAFe® 2 days  SAFe 4 Certified Architect <i>Lean-Agile Leaders</i>	
Release Train Engineers / Value Stream Engineers		SAFe® Release Train Engineer 3 days  SAFe 4 Certified Release Train Engineer
Product Managers / Product Owners	SAFe® PO/PM 2 days  SAFe 4 Certified Product Owner/Product Manager	
Scrum Masters	SAFe® Scrum Master 2 days  SAFe 4 Certified Scrum Master	 SSM OR CSM, PSM, other → SAFe® Advanced Scrum Master 2 days  SAFe 4 Certified Advanced Scrum Master
Teams	SAFe® for Teams 2 days  SAFe 4 Certified Practitioner <i>Agile Teams</i>	

Image credit: ScaledIQ Consulting. (Retrieved 2019, May 21). *SAFe Certifications* [digital image]. Retrieved from <http://www.scalediq.com/scaled-agile-framework/>

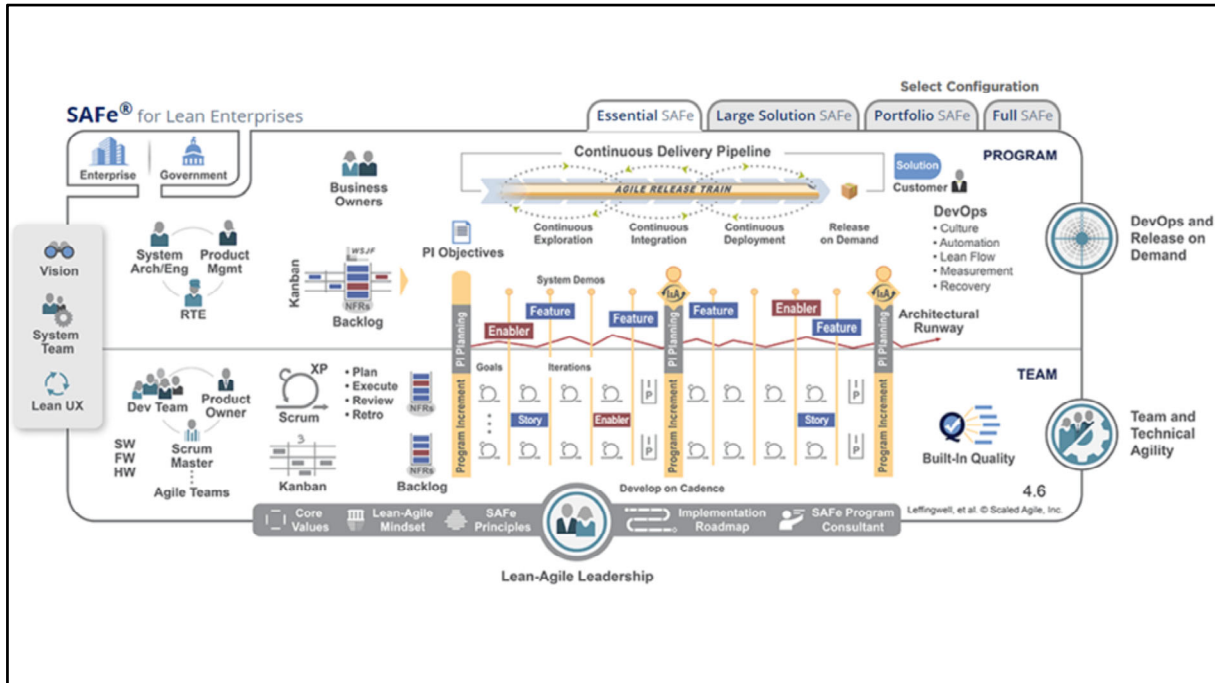


Image credit: © Scaled Agile, Inc. (2018, July). *BigPicEssential* [digital image]. Retrieved from <https://www.scaledagileframework.com/>

The article at <https://www.playbookhq.co/blog/wsjf-weighted-shortest-job-first> explains “weighted shortest job first” and contains an example calculation.

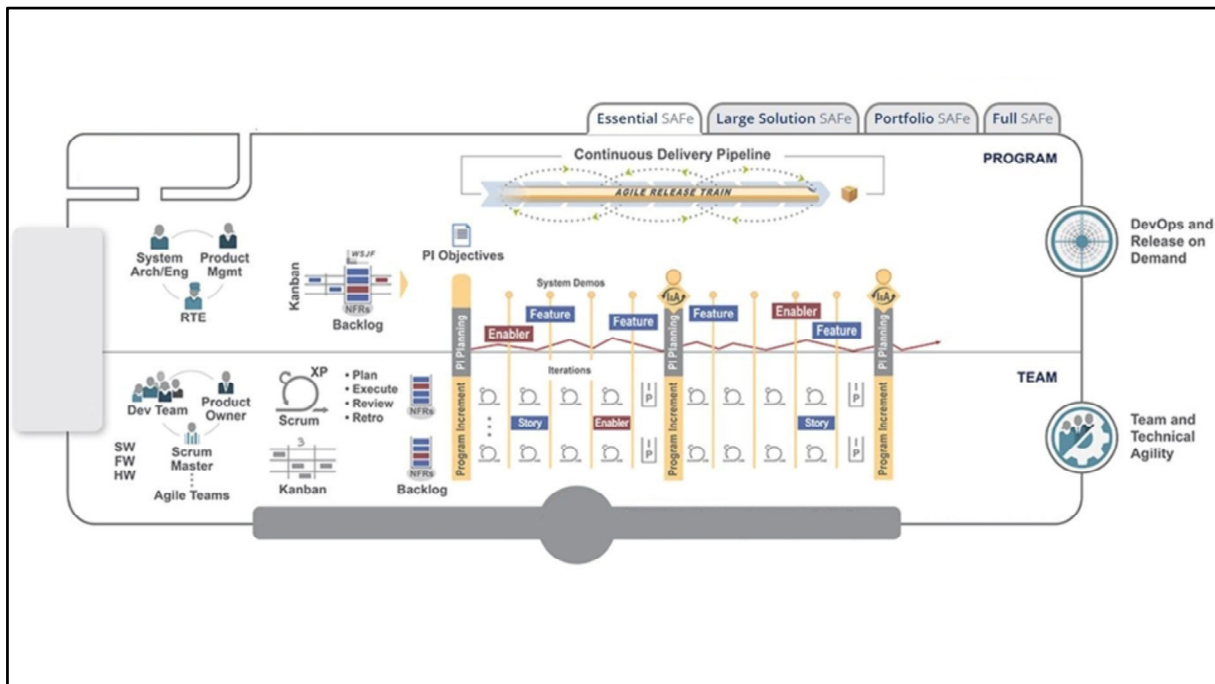
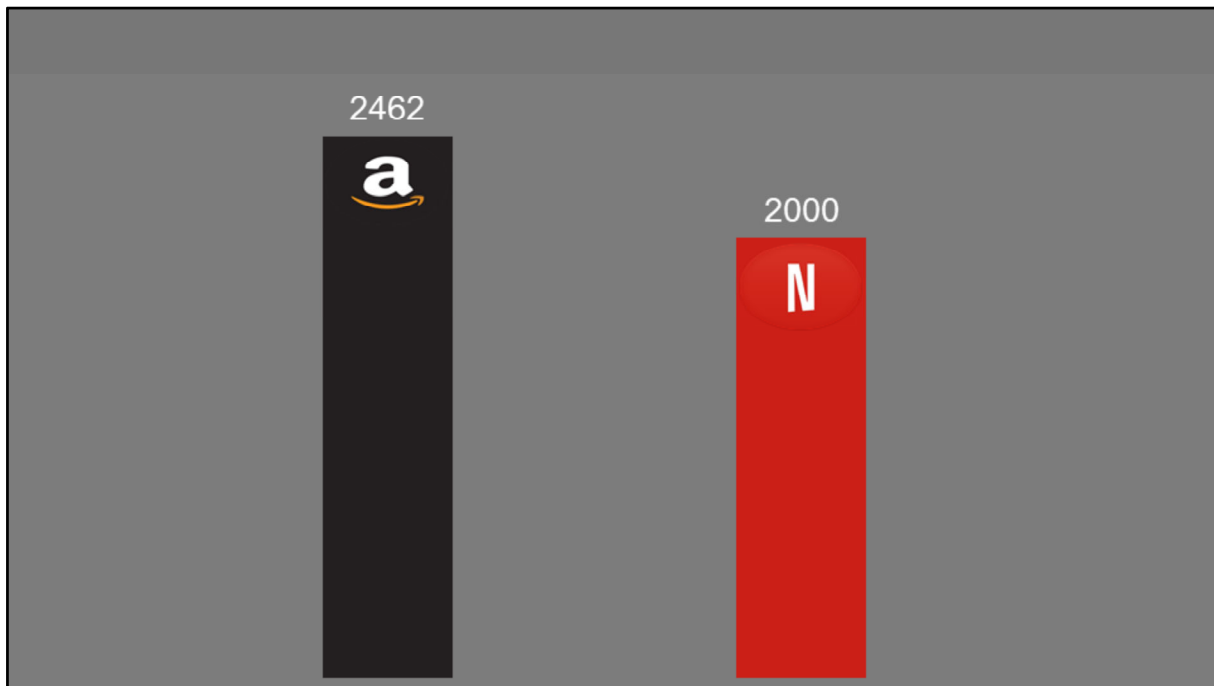


Image credit: © Scaled Agile, Inc. (2018, July). *BigPicEssential* [digital image]. Retrieved from <https://www.scaledagileframework.com/>



<https://techbeacon.com/devops/10-companies-killing-it-devops>

"Within a year of Amazon's move to AWS, engineers were deploying code every 11.7 seconds, on average."

"...today engineers deploy code thousands of times per day."