

# SE Market Survey Findings

What the survey tells us about the UK  
Systems Engineering Community

V0.2

2<sup>nd</sup> November 2010

Author: Steve Dawes



## Background to survey

---

The aim of the survey has been to understand better whether the UK SE Community offers the right challenges and opportunities to the right people, focuses on the right skill sets, and offers the right rewards.

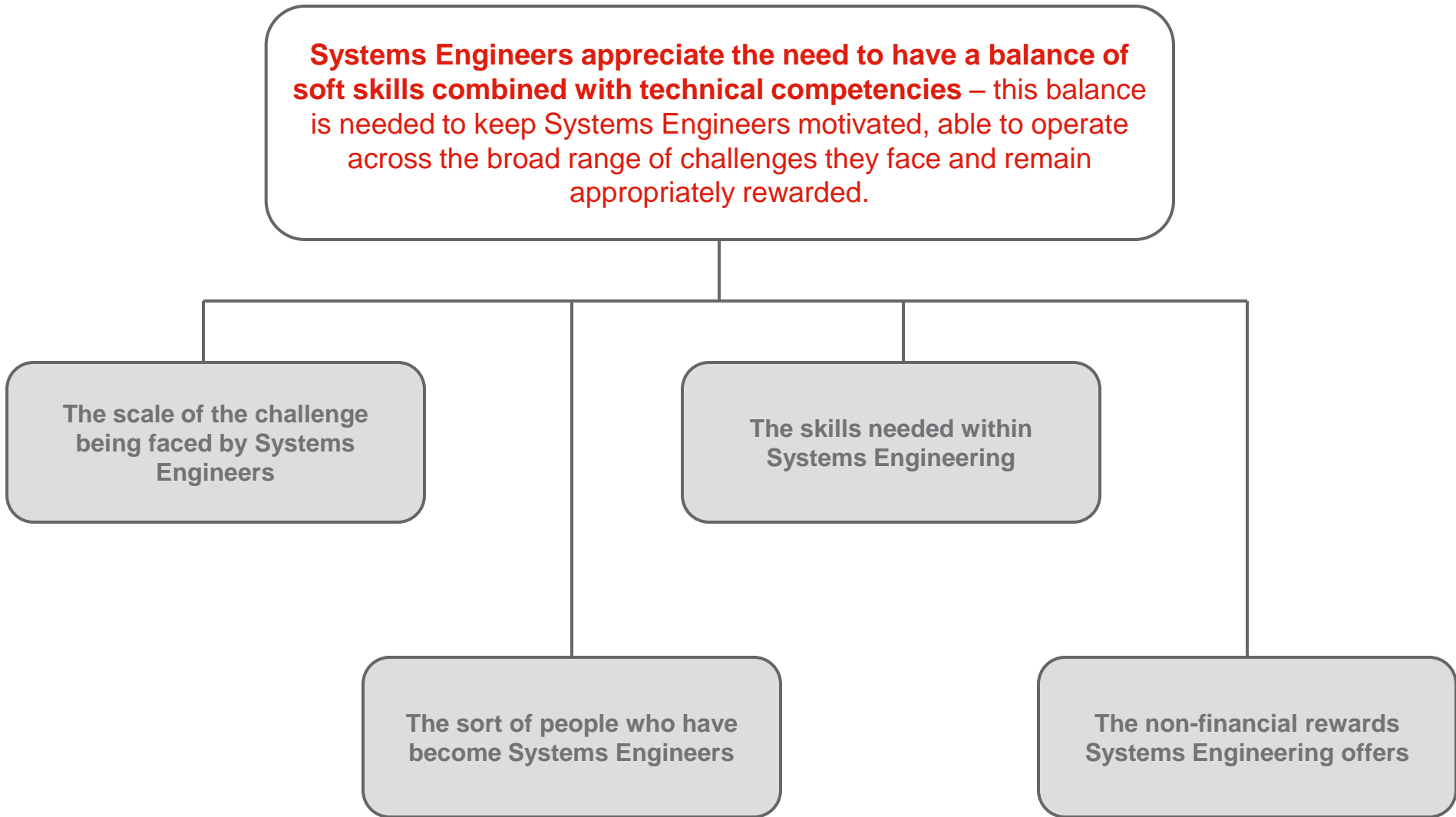
We launched the web-based survey in June and had 282 Systems Engineers responded. Our plan is to run similar surveys of the Systems Engineering community on a regular basis and use the information we glean to guide how we best support the community.

This presentation aims to give you a summary of the survey findings.

So what do the survey results say about the UK Systems Engineering community?

**Systems Engineers appreciate the need to have a balance of soft skills combined with technical competencies – this balance is needed to keep Systems Engineers motivated, able to operate across the broad range of challenges they face and remain appropriately rewarded.**

# Structure of presentation



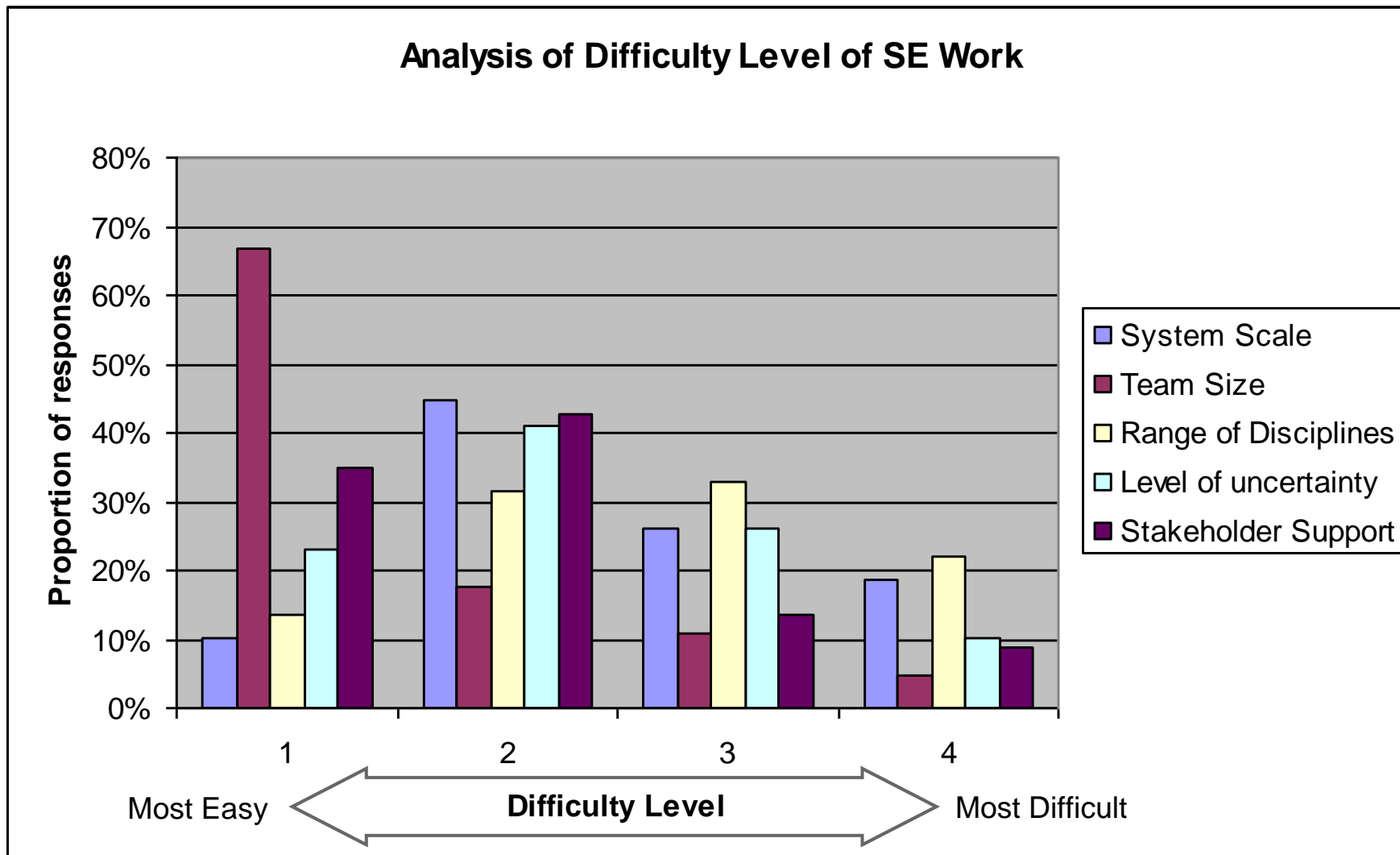
... and a few of graphs to whet your appetite

---

The following graphs have been taken from the 'SE Market Survey Findings' document that can be found on the INCOSE UK home web page.

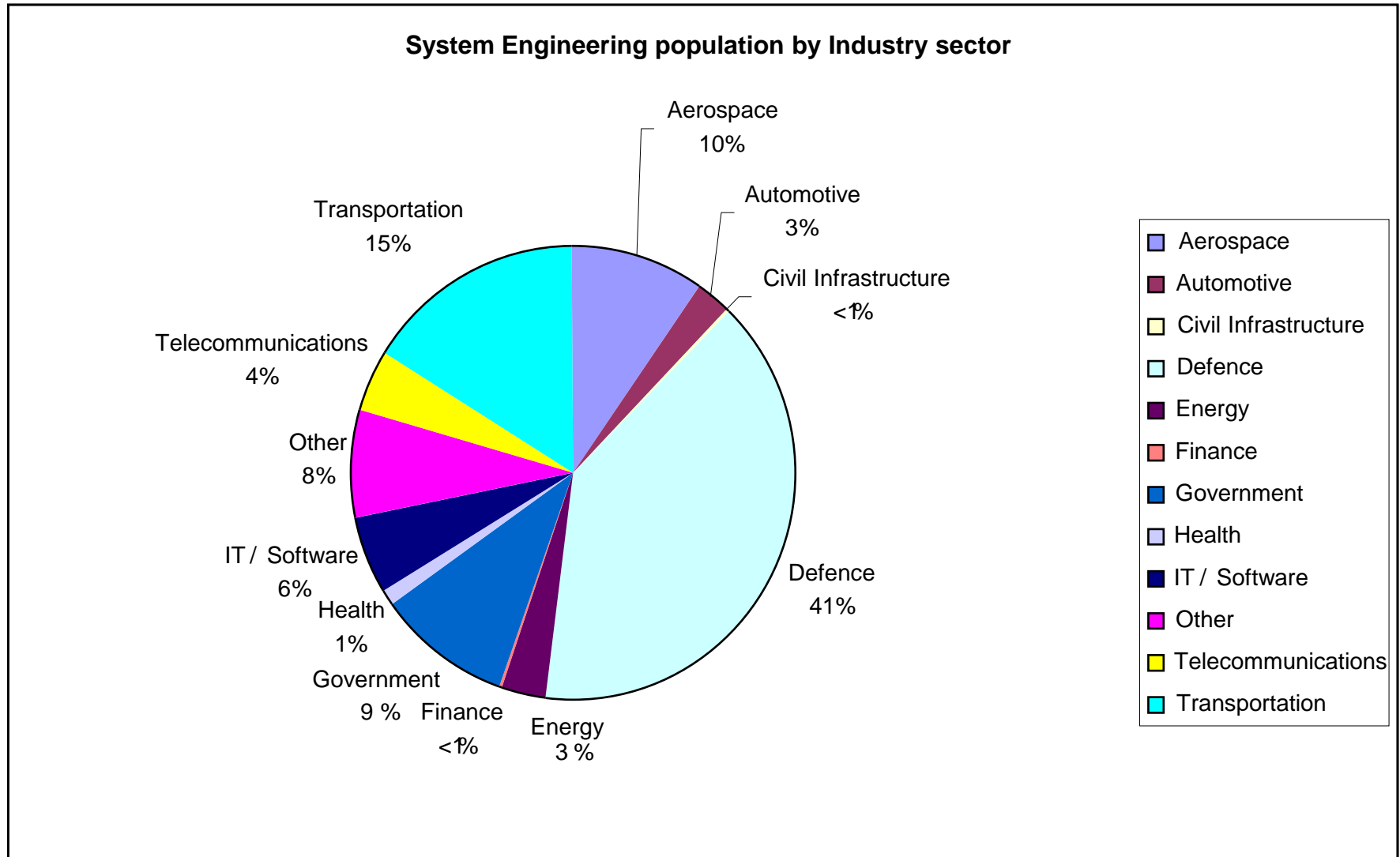


## E.g. The scale of the challenge being faced by Systems Engineers



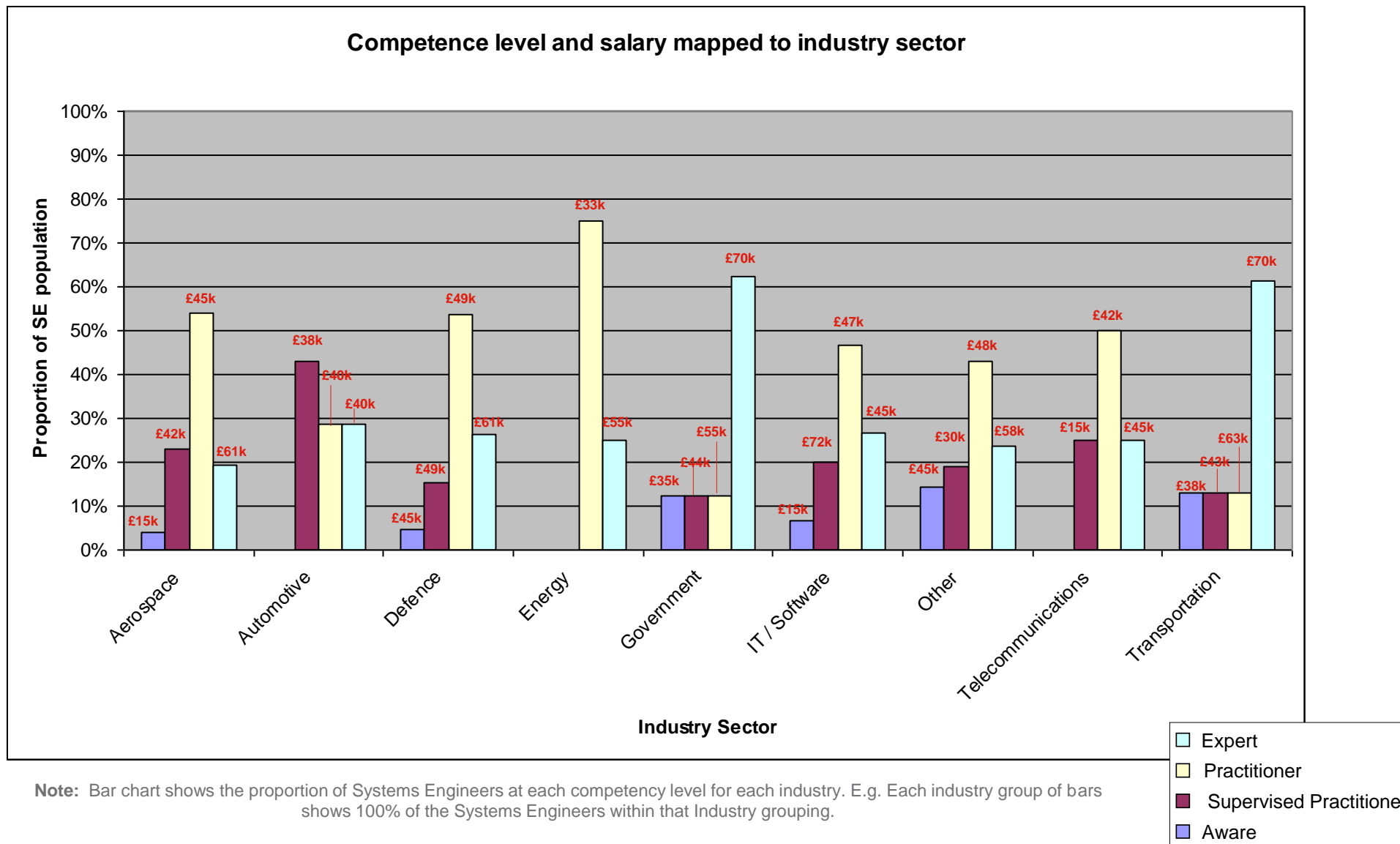


## E.g. The sort of people who have become Systems Engineers





# E.g. The skills needed within Systems Engineering





## E.g. The non-financial rewards Systems Engineering offers (page 1 of 2)

<b>Rewards</b>	<b>All SE %</b>	<b>Expert SE %</b>	<b>Practitioner SE %</b>	<b>Supervised Practitioner SE %</b>	<b>Aware SE %</b>
Bringing structure to overcome complex technical challenges, breaking down complex systems into simpler logical components	14%	14%	14%	16%	13%
Seeing and defining the bigger technical picture	12%	12%	12%	11%	8%
The complexity and the intellectual challenge, working in a technically demanding job	10%	12%	10%	10%	5%
Influencing the team and helping them understand complex problems in a 'simple' way	11%	11%	10%	11%	14%
Opportunity to broaden my skills across many different systems	10%	8%	9%	13%	13%
Getting the team to solve a complex problem	9%	9%	8%	9%	16%
Marshalling a number of technical disciplines to solve problems	8%	8%	8%	8%	6%
Coaching and sharing my SE knowledge	7%	7%	9%	5%	3%
Working in teams with experts in their field	7%	7%	7%	7%	8%
Solving what initially seems technically impossible	7%	7%	6%	8%	6%
Working on leading edge technology	6%	6%	6%	2%	8%



## E.g. The non-financial rewards Systems Engineering offers (page 2 of 2)

<b>Frustration</b>	<b>All SE %</b>	<b>Expert SE %</b>	<b>Practitioner SE %</b>	<b>Supervised Practitioner SE %</b>	<b>Aware SE %</b>
Colleagues do not 'get' the systems approach and the value it brings	14%	16%	12%	14%	10%
Too many people claim to be Systems Engineers and produce technical artefacts, but they are not really doing Systems Engineering work	13%	15%	13%	8%	10%
My organisation rewards 'heroes' and problem solvers, rather than 'calm' systems thinkers	10%	13%	10%	10%	7%
The culture in my organisation is to leap into design before we properly understand the requirements	10%	11%	9%	12%	7%
SE is a "challenging" career choice, rewards are higher for less effort in other careers (eg project management); lack of recognition in my organisation and professional institutions of the value of SE	8%	9%	8%	7%	5%
There is a lack of career path and SE career progression in my organisation	8%	7%	7%	9%	9%
Isolation, there are too few SEs in my organisation	7%	7%	7%	5%	10%
The SE processes are poorly defined in my organisation	6%	4%	8%	6%	7%
There is a lack of access to SE training	6%	2%	6%	8%	12%
There is a lack of professional recognition of SE and too few challenging Systems Engineering problems to solve in my organisation; a lack of opportunity to practice SE.	5%	5%	5%	3%	9%
Our SE processes are overly prescriptive and add little value; too much of the SE work becomes shelf ware.	5%	4%	6%	5%	0%
There are limited opportunities for me to transfer to a different role	4%	3%	3%	5%	7%
There is a lack of opportunity to practice SE in my organisation	3%	2%	3%	3%	3%
SE is diluting my specific technical skills so there are limited opportunities for me to transfer to a different role.	3%	1%	3%	3%	3%

## Key conclusion from SE Market Survey

---

**Systems Engineers appreciate the need to have a balance of soft skills combined with technical competencies** – this balance is needed to keep Systems Engineers motivated, able to operate across the broad range of challenges they face and remain appropriately rewarded.