Breakout Group 2

"The Suits"

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Summary Report

Day 1: Session 1: "Validation"

The session focused around answering the question 'Why is there no OOS yet?
The first issue people wanted to discuss was a proper definition for OOS. The point was made that it is not necessarily true to say there is no OOS. The only justification for this was the work done via the shuttle and examples such as the Hubble space telescope.
A review was made of the services proposed in the morning presentations. Most were pessimistic of the business case for anything other than:

- Life extension (the Orbital Recovery Corp view; ORC); and
- Military users – who would really take care of their own needs.

Inspection services were seen as of insignificant value and certainly not enough to justify the costs (estimated at $1million per inspection).
Manipulation services were limited by cost and technical complexity. People could not see a justification without introducing a whole new approach to satellite manufacture.
Motion services were therefore seen as the most viable and attractive. ORC explained their own business model and much discussion and questioning ensued. The basic premise is to offer an existing operator a 'life extension' service by means of a small servicing vehicle that attached itself to the target satellite. For the price of one year's commercial revenue (estimated at between $40-70M for GEO Telco), ORC would provide an additional 4-7 years operation. The payback is therefore self-evident but

relies on the willingness of the operator to take the risk of paying for the launch of the servicing vehicle.
The implication of this concept is that only GEO has any realistic demand for servicing. Other orbits were discussed. LEO was seen as low value and too difficult to deal with orbital considerations.
MEO was really only the realm of navigation satellites. However, this did provoke debate about the possibility of designing constellations such as Galileo with servicing in mind. Although it was seen as too late to apply this to Galileo now, it was recommended that an analysis be made of the economics of servicing such constellations.
Another of the major limiting factors was launch cost. The question of how launch costs could be reduced was posed to the other teams.

Day 1: Session 2: "Justification"
The main objective of this session was to come up with a vision statement for OOS. Most felt that OOS had to take incremental steps towards achieving its goal. No one was comfortable with grand visions since the evidence to support them was scarce.
Hence, the group came up with the statement 'Realistic, evolutionary steps towards OOS'.

Day 2: "Trade Off's" and "The Way Forward"

Day 2 started on a more encouraging note with the team enthused by the presentations of MD Robotics and AON Space. In particular, the news of Astra 1K highlighted the opportunity for re-orbiting missions. This was added to the list of potential business cases although there was a question over whether a rescue mission could be launched quickly enough to save such a satellite. The cost of keeping a servicer in orbit was presumed to be too much of an overhead although it was agreed that such servicing events tend to occur every 12-18 months.

The main objective of the session was to come up with a two alternative scenarios for future action with a preferred and second option. The preferred scenario was that a public lead demonstration mission be launched to prove the possibility for re-orbiting a stranded satellite. Although publicly funded, commercial revenue should be sought. Such a mission could take place in 3-4 years time and should have the support of a broad community of stakeholders.

The alternative was to carry on with 'business as usual'. This was a bit of a pessimistic vies that encouraged public entities to watch and support. The development of commercial services and technology development should continue with the intention of demonstrating feasibility in due course.

In both cases, a full analysis should be undertaken of the economic of servicing large constellations of satellites.