



Multi-actor, multi-office and multi-discipline collaboration in an oil refinery FEED project

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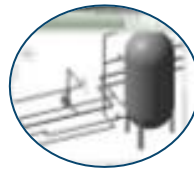
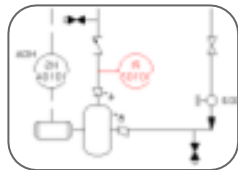
4. Conclusions and recommendations

1.

Problem Analysis

What obstacles exist in the team collaboration?

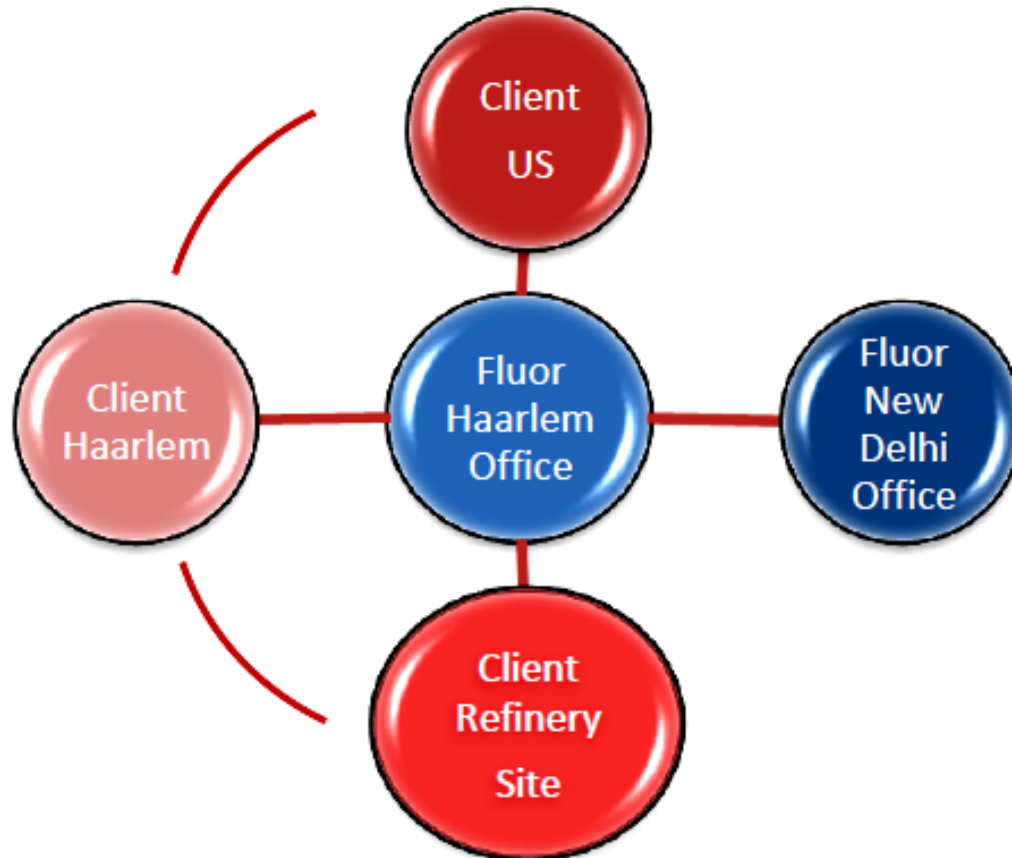
Discipline collaboration



17 disciplines:

- Engineering disciplines
- Supporting disciplines
- Management group

Globally distributed project team



Client-Fluor team integration

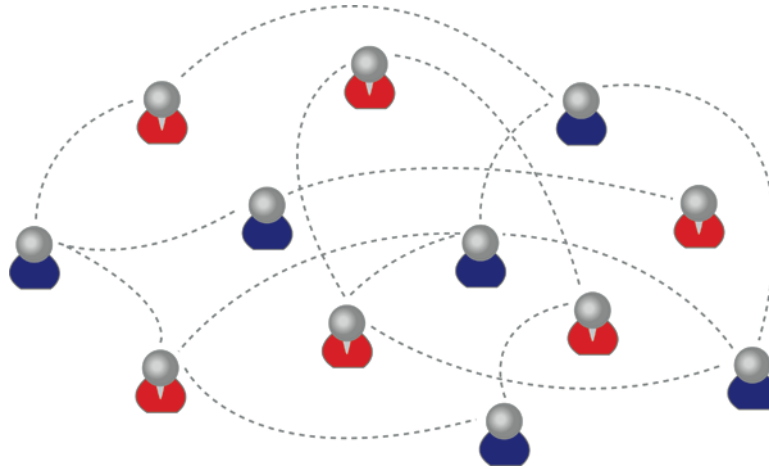


- FEED should capture and reflect the deep considerations and requirements from the client.
- Revamp: unforeseen site conditions, shutdowns and operational interfaces (client site operation and maintenance team).

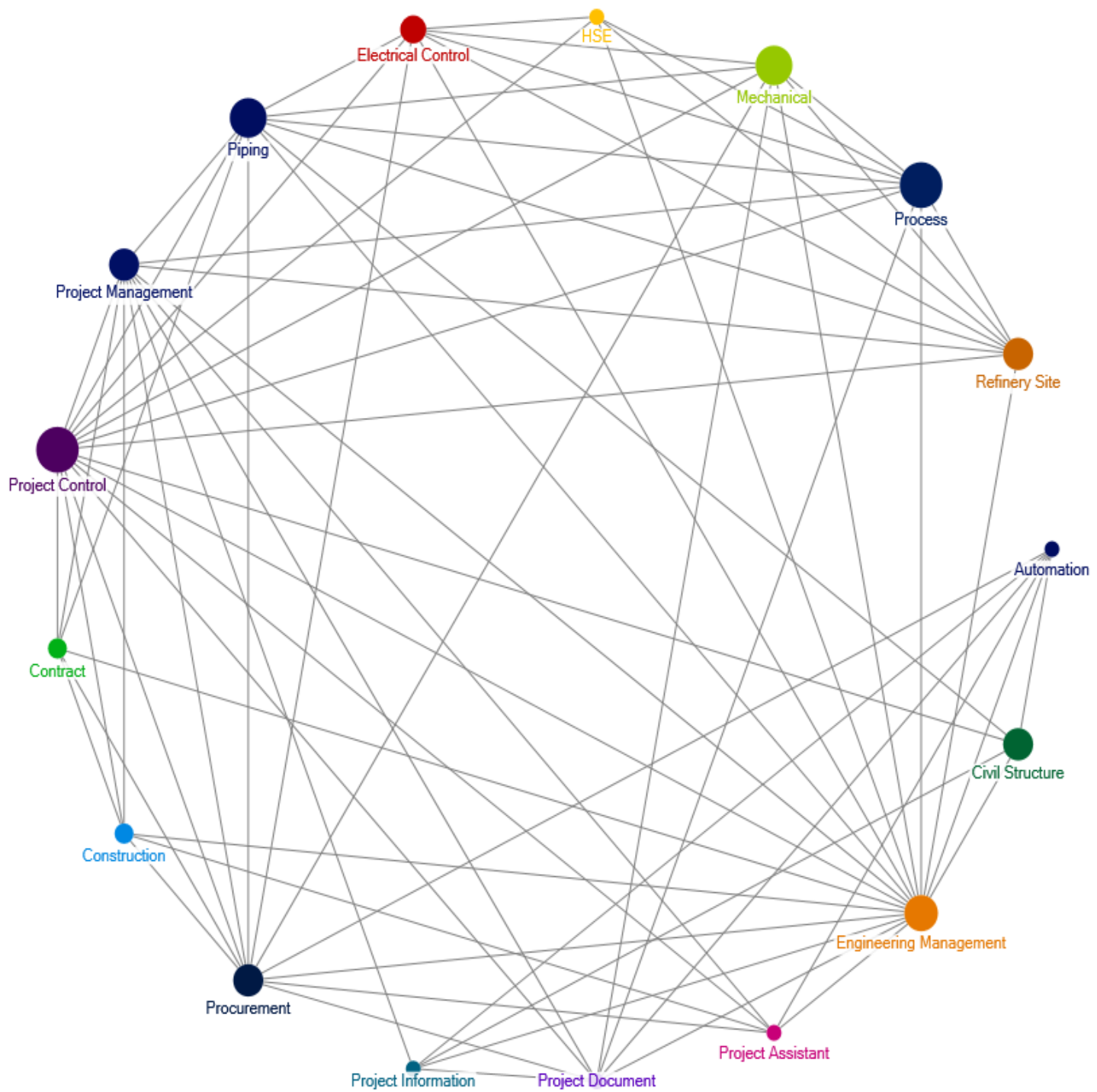
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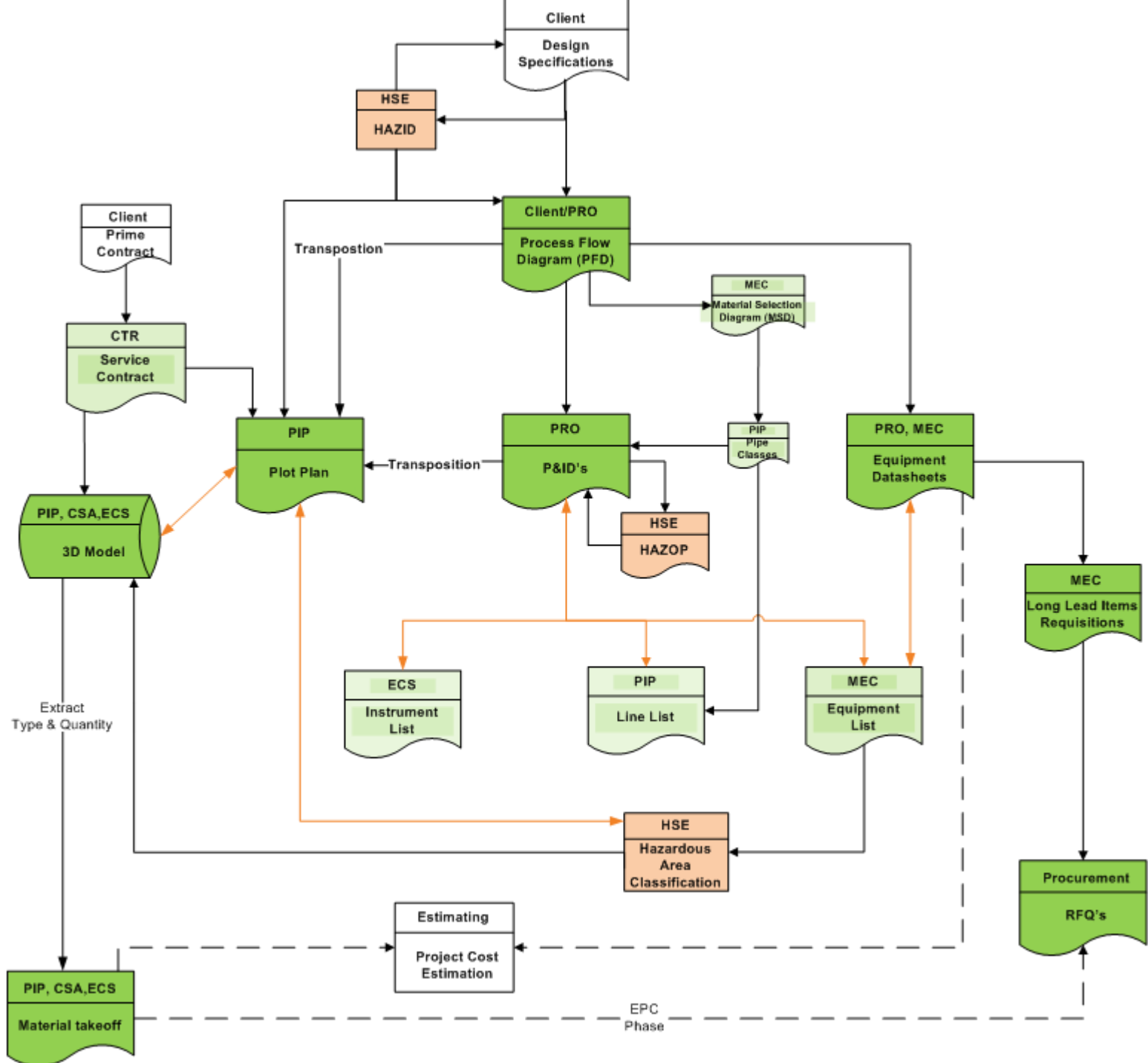
Methodology

Social network analysis



- Information input-output
 - Problem solving
 - Decision making
 - Feedback and recognition
- Open questions





Workflow dependency

SOLL "as it should be" situation

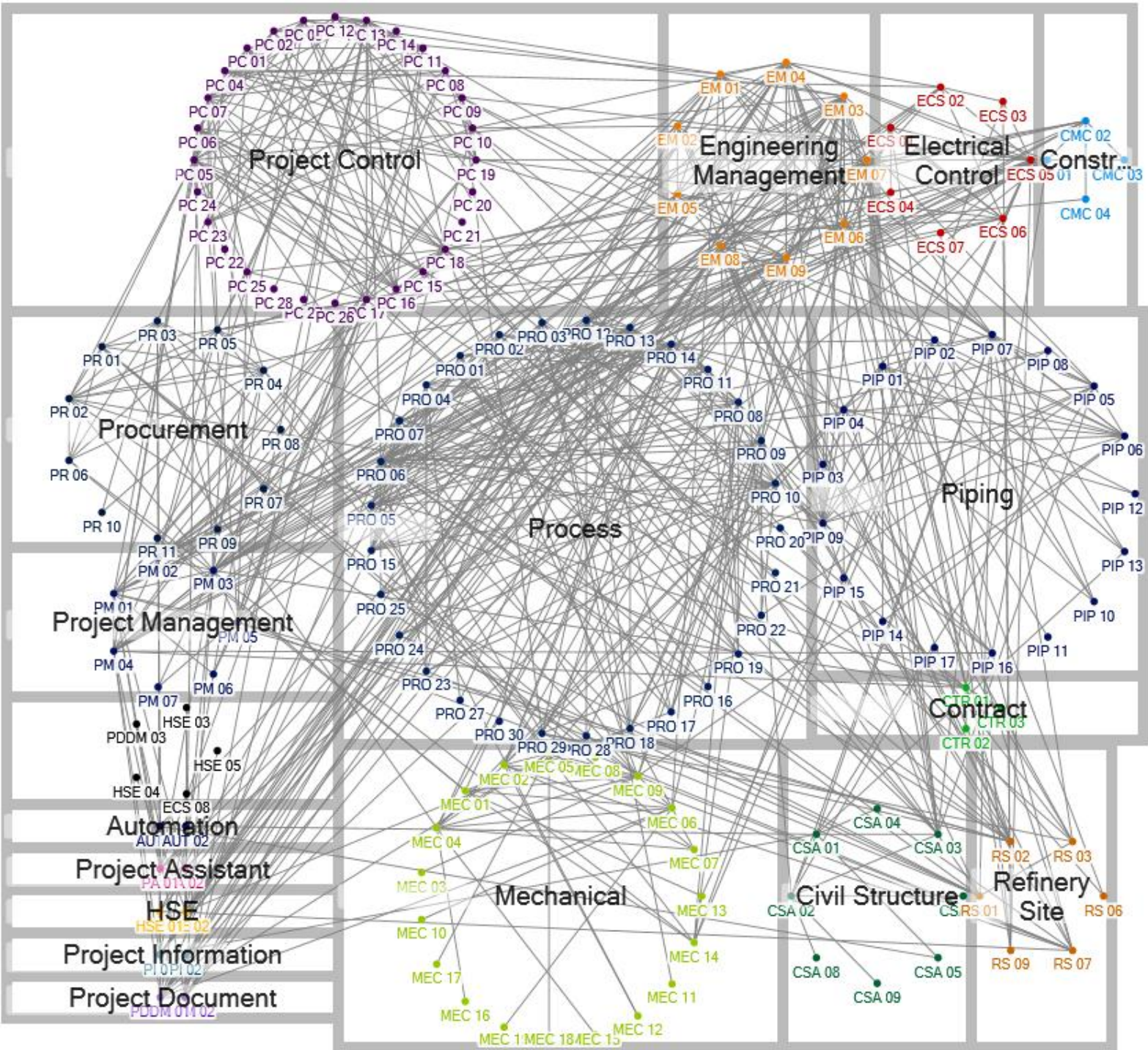


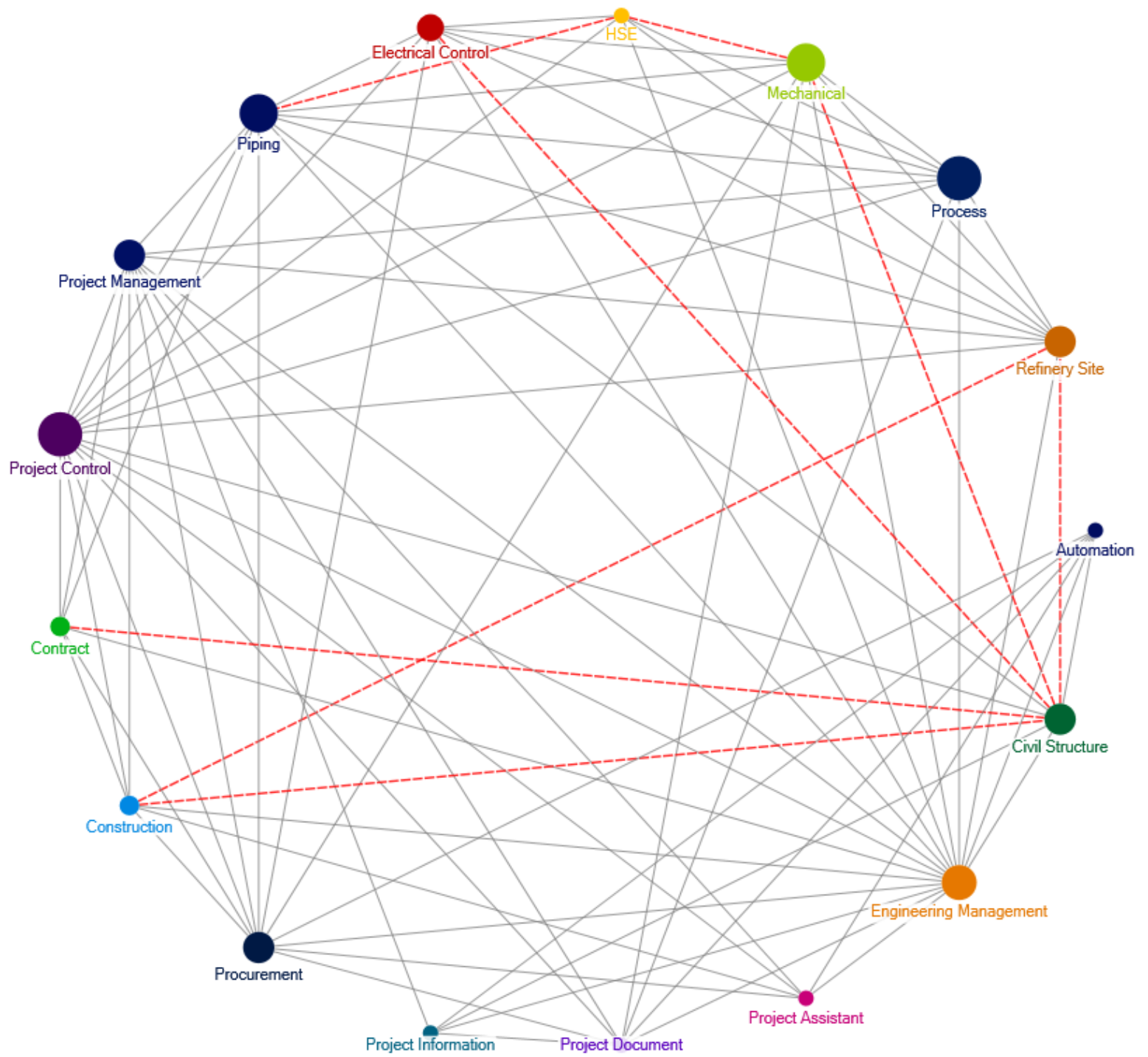
IST "actual" situation

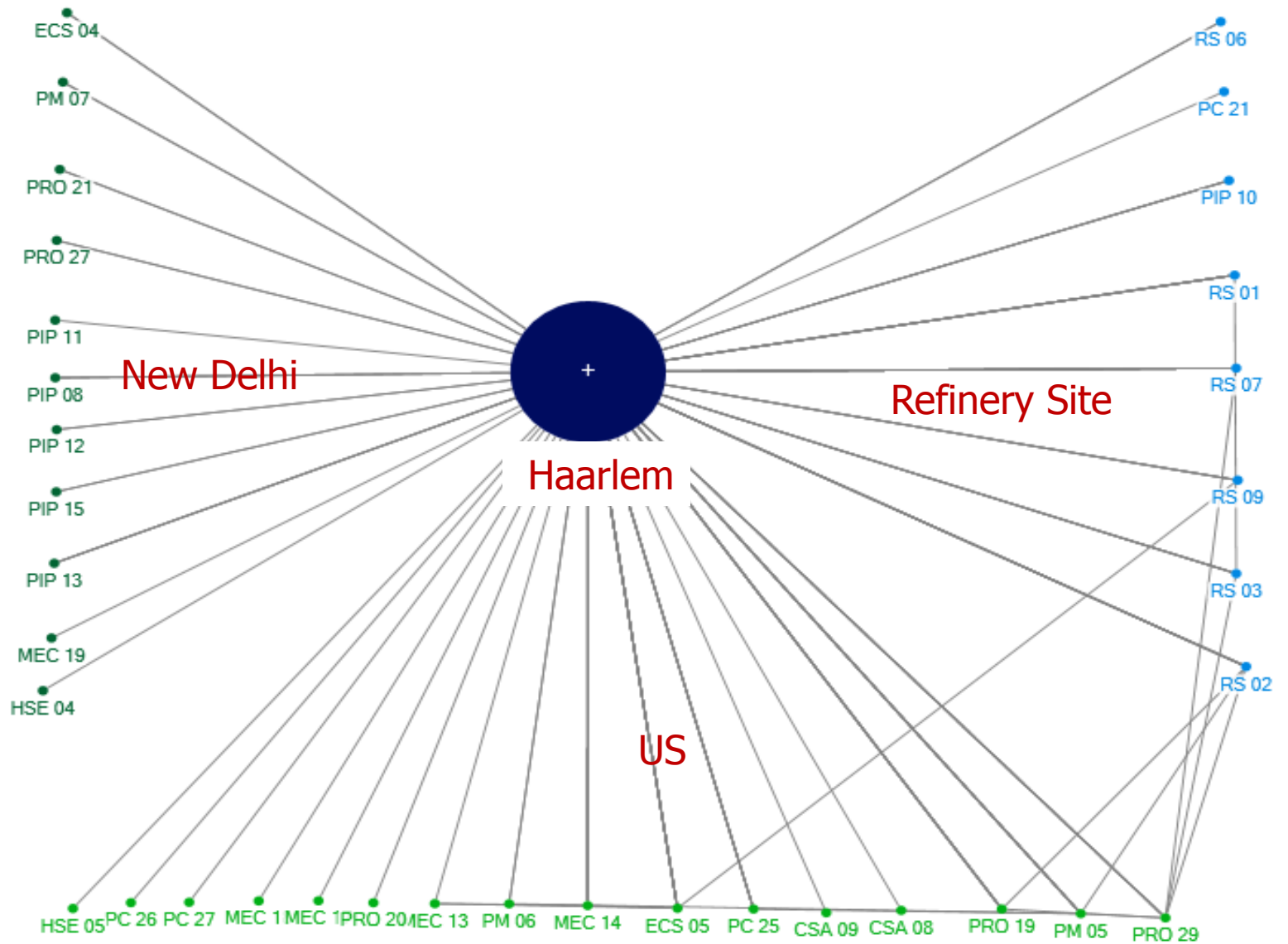
Social Network Survey

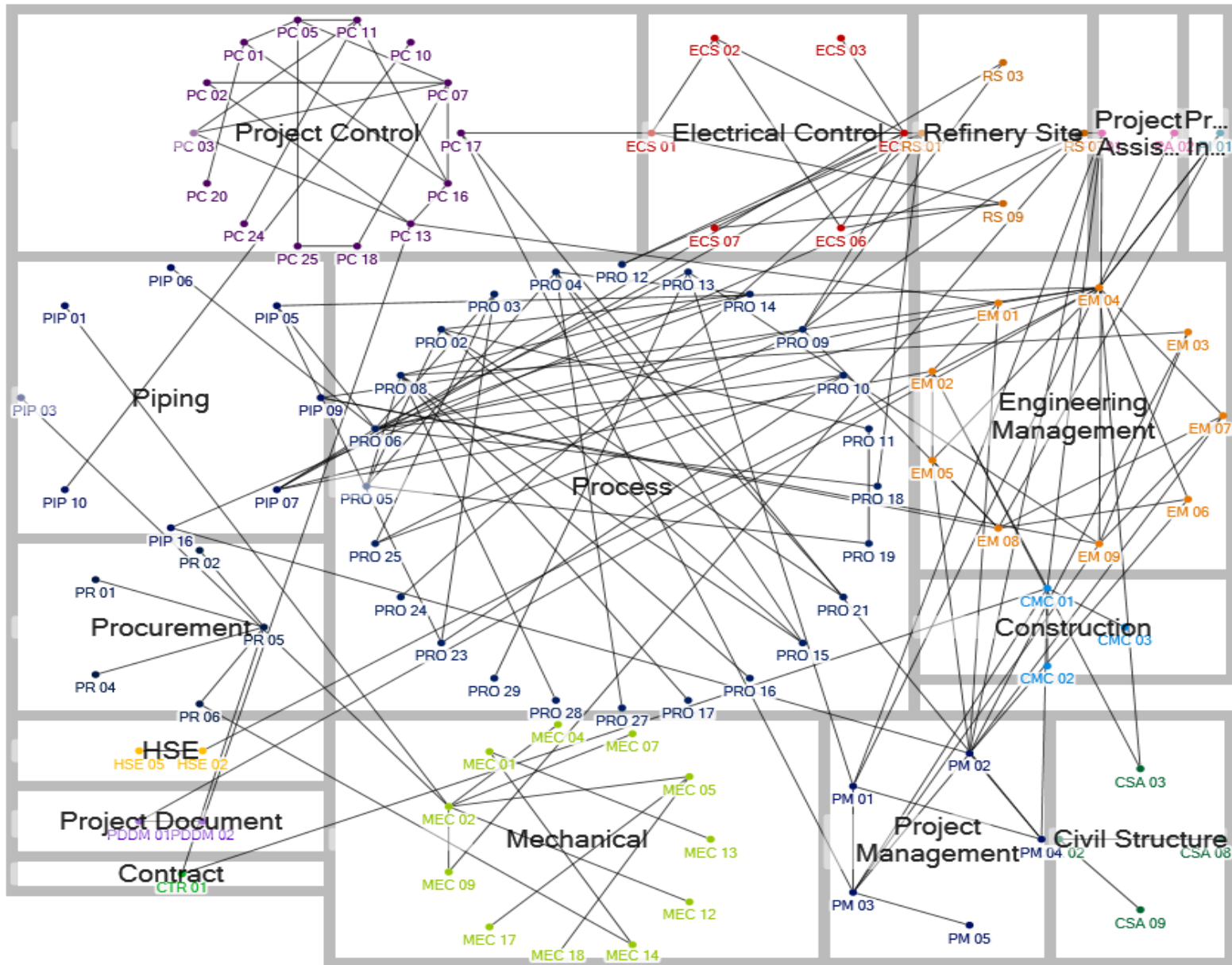
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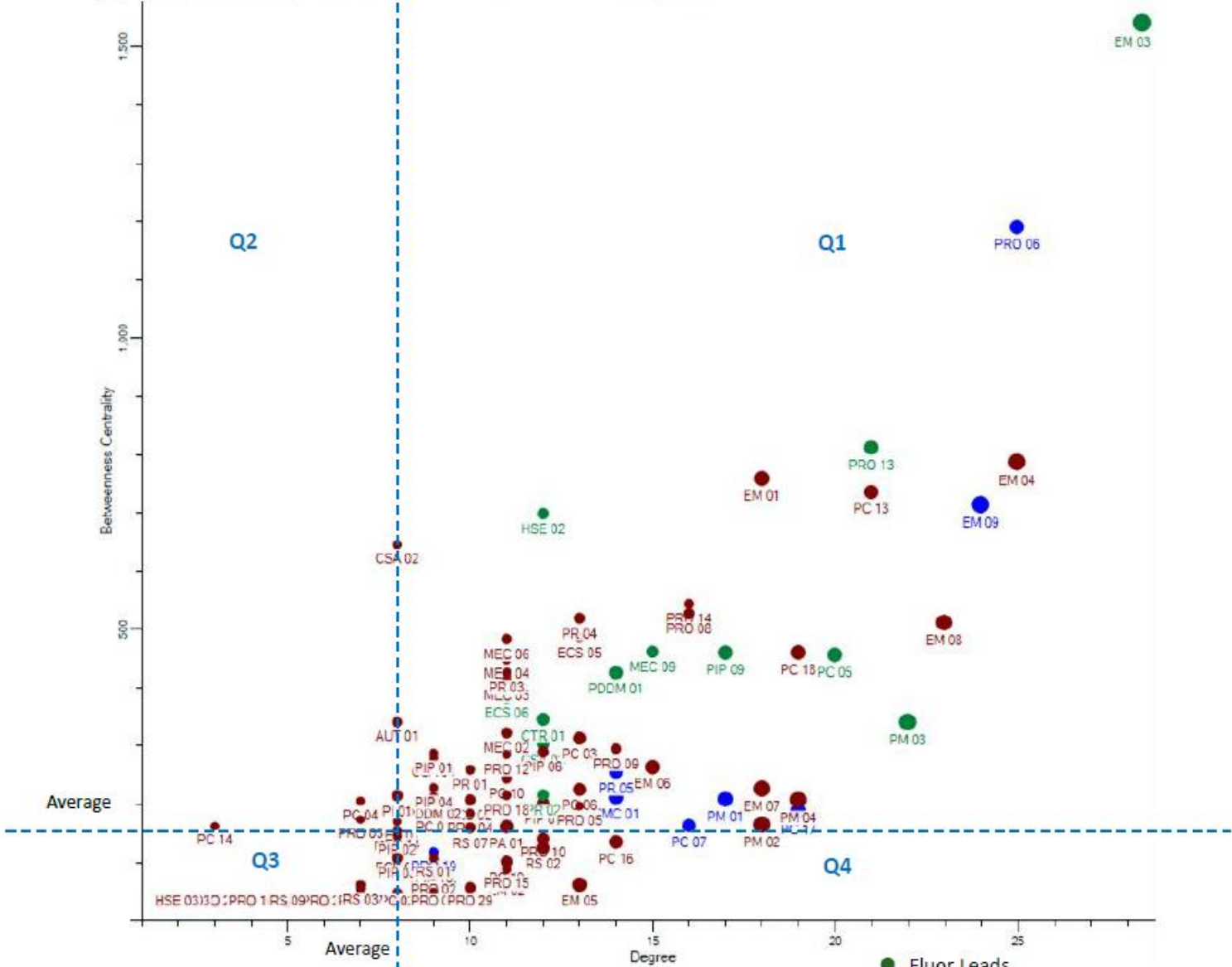
Results SOLL-IST











- Fluor Leads
- Client Leads
- Normal engineers/Managers



4.

Conclusions and recommendations

Conclusion

- Diagnostic value ---- Team collaboration in the FEED phase
- Predictive value ---- Team collaboration in the EPC phase

Recommendations

- Pay special attention to:
Civil and HSE

Adapt HSE procedure and distribute HSE responsibility.

- Build-up relationship-oriented mindset
- Optimize Fluor and client team at refinery site
- Maintain key actors
- Develop and fulfill the coordinating role of project engineers
- Facilitate direct contact between the client and Fluor New Delhi project team.
- Examine the role and responsibility of Engineering Manager, alleviate the information load for this position.
- Involve key players earlier in the network
- Promote knowledge awareness among coworkers

Questions Comments



Thank you very much!