

Exhibit to Accompany the Article

## Research Shows that Making Your Supply Chain Visible Is Extremely Hard

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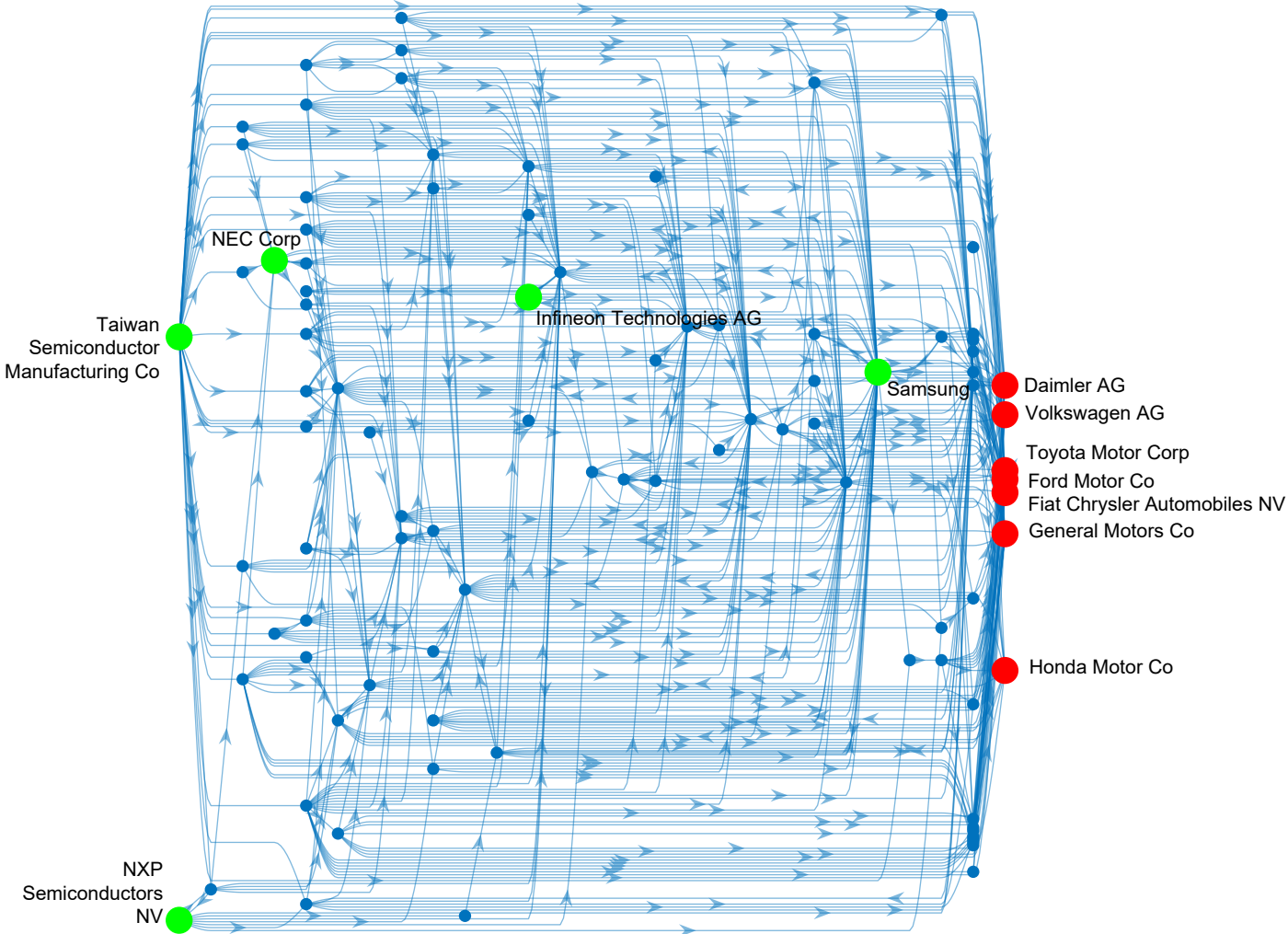
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This exhibit depicts the semiconductor chip supply networks for automotive manufacturers and computer manufacturers. **Panel A** shows the supply network from five chipmakers to seven selected automotive manufacturers and **Panel B** shows the network from the same five chipmakers to four selected computer manufacturers. We obtained our data set from Factset Revere and conducted network analysis on that data set. Our complete data, analysis, and results are described in the article:

Osadchiy, Nikolay and Udenio, Maximiliano and Gaur, Vishal, Have Supply Networks Become More Fragmented Over Time? (May 2021). Available at SSRN: <https://ssrn.com/abstract=3867369> or <http://dx.doi.org/10.2139/ssrn.3867369>

**Panel A: Automotive Manufacturers' Semiconductor Supply Network for the Year 2017**

Large green dots represent chip makers TSMC, NEC, Infineon, and Samsung. Large red dots represent car makers Daimler, Fiat, Chrysler, GM, Ford, Honda, Toyota, and Volkswagen.



## Panel B: Computer Manufacturers' Semiconductor Supply Network for the Year 2017

Large green dots represent chip makers TSMC, NEC, Infineon, NXP, and Samsung. Large red dots represent computer makers Lenovo, Apple, Dell, and HP.

