

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

AUTOCONNECT HOLDINGS, LLC

Plaintiff,

v.

FORD MOTOR COMPANY,

Defendant.

Case No.: 1:24-cv-01327-JCG

Hon. Jennifer Choe-Groves

JURY TRIAL DEMANDED

**FORD MOTOR COMPANY'S PRELIMINARY
INVALIDITY CONTENTIONS**

Neal C. Belgam (*Admission Pending*)
Daniel A. Taylor (*Admission Pending*)
SMITH KATZENSTEIN JENKINS LLP
The Brandywine Building
1000 West St., Suite 1501
Wilmington, DE 19801
(302) 652-8400
nbelgam@skjlaw.com
dat@skjlaw.com

OF COUNSEL:
BROOKS KUSHMAN P.C.
John S. LeRoy
Christopher C. Smith
Reza Roghani Esfahani
150 W. Second St., Suite 400N
Royal Oak, MI 48067-3846
(248) 358-4400
jleroy@brookskushman.com
csmith@brookskushman.com
resfahani@brookskushman.com

Counsel for Defendant

Ex.	Country	Name/Patent/ Application No.	Filing/ Publication/Issue Date	Inventor(s)	35 U.S.C. Section 102
J-14	US	9,002,536	Mar. 14, 2013/ Sep. 18, 2014/ Apr. 7, 2015	Hatton	AIA 102(a)(2)
	US	2018/0103022	Oct. 10, 2016/ Apr. 12, 2018/ Dec. 10, 2019	Tokunaga et al.	AIA 102(a)(1)
	US	2014/0303837	Apr. 9, 2013/ Oct. 9, 2014	Tuukkanen	AIA 102(a)(2)
	NPL	<i>See also</i> documents related to system art listed <i>infra</i> II.C			

11. U.S. Patent No. 9,173,100

Ex.	Country	Name/Patent/ Application No.	Filing/ Publication/Issue Date	Inventor(s)	35 U.S.C. Section 102
K-2	US	9,094,386	Jan. 4, 2013 / May 16, 2013 / July 28, 2015	Jain et al.	Pre-AIA 102(e)
K-1	US	2008/0192929	Feb. 11, 2008/Aug. 14, 2008 / N/A	Knechtel et al.	Pre-AIA 102(a), (b), (e)
K-3	US	9,881,165	Mar. 29, 2012 (provisional) / March 28, 2013 (PCT) / Jan. 15, 2015 / Jan. 30, 2018	Litichever et al.	Pre-AIA 102(e)
K-5	WO	2013/093591	Dec. 14, 2012 / Jun. 27, 2013 / N/A	Mabuchi	Pre-AIA 102(e)
K-4	US	2013/0104231	Oct. 4, 2012 / Apr. 25, 2013 / Dec. 30, 2014	Niner et al.	Pre-AIA 102(e)
K-6	US	7,626,487	June 11, 2004 / Apr. 27, 2006 / Dec. 1, 2009	Ogiso	Pre-AIA 102(a), (b), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/ Publication/Issue Date	Inventor(s)	35 U.S.C. Section 102
	US	9,178,897	July 3, 2012 / Jan 9, 2014 / Nov. 3, 2015	Bush et al.	Pre-AIA 102(e)
	US	2013/0081106	Sep. 13, 2012 / March 28, 2013 / May 19, 2015	Harata et al.	Pre-AIA 102(e)
	US	2019/0020985	Jan 14, 2011 (provisional) Sept. 11, 2018 / Jan. 17, 2019 / Apr. 13, 2021	Dai et al.	Pre-AIA 102(e)
	US	8,341,298	May 19, 2006 / June 7, 2007 / Dec. 25, 2012	Wilber et al.	Pre-AIA 102(a), (b), (e)
	US	5,938,708	July 3, 1997 / N/A / Aug. 17, 1999	Wallace et al.	Pre-AIA 102(a), (b), (e)
	US	6,161,071	Mar. 12, 1999 / N/A / Dec. 12, 2000	Shuman et al.	Pre-AIA 102(a), (b), (e)
	US	7,135,962	Dec. 20, 2004 / Aug. 4, 2005 / Nov. 14, 2006	Durbin et al.	Pre-AIA 102(a), (b), (e)
	US	7,215,237	Sept. 5, 2000 / N/A / May 8, 2007	Messerschmid	Pre-AIA 102(a), (b), (e)
	US	7,356,832	Feb. 10, 2000 / N/A / Apr. 8, 2008	Eibach et al.	Pre-AIA 102(a), (b), (e)

Ex.	Country	Name/Patent/ Application No.	Filing/ Publication/Issue Date	Inventor(s)	35 U.S.C. Section 102
	US	7,366,892	Jan. 28, 2004 / Sept. 23, 2004 / Apr. 29, 2008	Spaur et al.	Pre-AIA 102(a), (b), (e)
	US	7,894,978	Apr. 1, 2008 / Aug. 6, 2009 / Feb. 22, 2011	Kurnik et al.	Pre-AIA 102(a), (b), (e)
	US	7,945,792	Oct. 17, 2007 / Apr. 23, 2009 / May 17, 2011	Cherpantier	Pre-AIA 102(a), (b), (e)
	US	8,863,256	Jan. 26, 2011 / N/A / Oct. 14, 2014	Adepalli et al.	Pre-AIA (e)
	US	2003/0009271	June 26, 2002 / Jan. 9, 2003 / Feb. 17, 2004	Akiyama	Pre-AIA 102(a), (b), (e)
	US	2011/0060920	Nov. 17, 2010 / Mar. 10, 2011 / Nov. 17, 2010	Kisters	Pre-AIA 102(a), (b), (e)
	US	2013/0031037	Aug. 23, 2012 / Jan. 31, 2013 / Apr. 14, 2015	Brandt et al.	Pre-AIA 102(a), (b), (e)
	US	2014/0195808	Dec 1 2011 (PCT) / Mar. 18, 2014 / July 10, 2014 / Aug. 16, 2016	Lortz et al.	Pre-AIA 102(e)
	US	2016/0173530	Feb 13, 2013 (PCT) / Aug. 8, 2014 / June 16, 2016 / N/A	Miyake	Pre-AIA 102(e)

Ex.	Country	Name/Patent/ Application No.	Filing/ Publication/Issue Date	Inventor(s)	35 U.S.C. Section 102
	WO	2000/061408	Apr. 10, 2000 / Oct. 19, 2000 / N/A	Ambrož et al.	Pre-AIA 102(a), (b), (e)
	Sweden	Vehicular Networks – Security, Vulnerabilities and Countermeasures	June 2010	Amirtahmasebi et al.	Pre-AIA 102(a), (b)
		EVITA-Project.org: E-Safety Vehicle Intrusion Protected Applications	Nov. 24-25, 2009	Henniger	Pre-AIA 102(a), (b)
		Threat Analysis on Vehicle Computer Systems	Jan. 26, 2010	Vestlund	Pre-AIA 102(a), (b)
		A Formal Security Model for Verification of Automotive Embedded Applications	2010	Pedroza et al.	Pre-AIA 102(a), (b)
		Car2X Communication: Securing the Last Meter	2011	Schweppe	Pre-AIA 102(a), (b)
		A Formal Methodology Applied to Secure Over-the-Air Automotive Applications	2011	Pedroza et al.	Pre-AIA 102(a), (b)
		A System-Aware Cyber Security Architecture	Feb. 13, 2012	Jones et al.	Pre-AIA 102(a), (b)
		Bosch Automotive Handbook, 6th Edition	October 2004	Bosch	AIA 102(a)(1)
K-7	US	Ford Sync Gen II System	2011	Ford Motor Company	Pre-AIA 102(a), (b), (e)

solving the same, or similar, problems: permitting first users (i.e., vehicle owners) to manage access to vehicle systems, networks, and components. *See, e.g.*, Saylor at 21:64-22:11; Lortz at [0030]; Tuukkanen at [0037], Fig. 8B; Penilla at 1:54-2:3, 6:64-7:16; and Hendry at [0022], [0027]. With these shared goals in mind, and a limited number of options available to assist in achieving that objective, a person of ordinary skill in the art would have been motivated to consider the disclosed techniques and systems and combine their teachings to develop the alleged inventive systems claimed in the '931 Patent. Based on Ford's present understanding of the asserted claims of the '931 Patent and Plaintiff's Infringement Contentions, those claims are obvious in light of the combinations of references in the Exhibit J charts, each of which yields predictable results.

Some exemplary combinations of references include:

- Saylor in view of Protopapas, Lortz, Kleve, and/or Zaid.
- Saylor in view of Hendry, Vincenti, and/or Singh.
- Saylor in view of Ota and/or Takizawa.
- Perry in view of Protopapas, Vincenti, Lortz, Hendry, and/or Singh.
- Penilla in view of Protopapas, Singh, Hendry, and/or Vincenti.
- Tuukkanen in view of Kleve.

It would further be obvious to combine any system identified in Section II.C.10 with any of the references charted in Exhibits J.

H. Regarding the '100 Patent

The claims of the '100 patent are generally directed to detecting an instance of a security breach in a vehicle perimeter network and isolating an affected component. By March 2013, the concepts of vehicle security systems reflected in the claims of the '100 patent were already well-known and commonplace in the automotive industry and in the field of network security more

generally. As demonstrated in the prior art cited below, in the Exhibit K claim charts, and in other references demonstrating the state of the art and knowledge of a person of ordinary skill, these concepts were already known and established in field.

To the extent that AutoConnect argues that any of the references cited in the Exhibit K claim charts does not disclose one or more elements of the claims the '100 patent, it would have been obvious to a person of ordinary skill in the art to combine the teachings of that reference with their own background knowledge and/or the prior art, including the references cited below or in the Exhibit K claim charts. Exemplary combinations of references include:

- Mabuchi '591 in view of one or more of Litichever '165, Jain '386, Niner '231, Knechtel '929, Amirtahmasebi, Ogiso '487, the Bosch Automotive Handbook, 6th Edition, and the Ford Sync Generation 2 My Ford Touch Infotainment System.
- Litichever '165 in view of one or more of Mabuchi '591, Jain '386, Niner '231, Knechtel '929, Amirtahmasebi, Ogiso '487, the Bosch Automotive Handbook, 6th Edition, and the Ford Sync Generation 2 My Ford Touch Infotainment System.
- Jain '386 in view of one or more of Mabuchi '591, Litichever '165, Niner '231, Knechtel '929, Amirtahmasebi, Ogiso '487, the Bosch Automotive Handbook, 6th Edition, and the Ford Sync Generation 2 My Ford Touch Infotainment System.
- Amirtahmasebi in view of one or more of Mabuchi '591, Litichever '165, Jain '386, Niner '231, Knechtel '929, Amirtahmasebi, Ogiso '487, the Bosch Automotive Handbook, 6th Edition, and the Ford Sync Generation 2 My Ford Touch Infotainment System.

- Ogiso '487 in view of in view of one or more of Mabuchi '591, Litichever '165, Jain '386, Niner '231, Knechtel '929, Amirtahmasebi, the Bosch Automotive Handbook, 6th Edition, and the Ford Sync Generation 2 My Ford Touch Infotainment System
- The Ford Sync Generation 2 My Ford Touch Infotainment System in view of one or more of Mabuchi '591, Litichever '165, Jain '386, Niner '231, Knechtel '929, Amirtahmasebi, Ogiso '487, and the Bosch Automotive Handbook, 6th Edition.

Each of these references is directed to automotive network security. Additionally, related publications in the field that describe the advantages and shortcomings of various approaches to automotive security would provide a motivation to combine the teachings of these references to address the broad range of security threats facing vehicles recited in the claims of the '100 patent. An exemplary reference providing such a motivation to combine references is found in Kasra Amirtahmasebi & Seyed Reza Jalalinia, *Vehicular Networks – Security, Vulnerabilities and Countermeasure* (June 2010). This reference discusses isolating components using firewall gateways on perimeter vehicular networks, Amirtahmasebi, at 41 (“Therefore, only messages from valid and authentic ECUs will be able to pass through the firewall rules and thus be transmitted on the in-vehicle bus system”), and also teaches the advantages of various network security architectures, such as distributed, semi-distributed, and centralized. *Id.* at 44-46. For example, in view of these teachings, a person of skill in the art would be motivated to combine references disclosing more centralized security architecture, such as Litichever '165, with references disclosing more distributed security architecture, such as Niner '231, or would have a reasonable expectation of success in taking more distributed systems where security processes are complemented across many ECUs and combining them with embodiments that have a more centralized control system. Litichever '165 itself offers this motivation to combine, as it describes

embodiments that serve similar ultimate security goals but using either a standalone, centralized system, a multi-ECU distributed system, or something in between. *See, E.g.,* Litichever '165 at 11:6-21.

Thus, one skilled in the art would have been motivated to develop a system that uses the combinations of these features in the same way allegedly disclosed in the '100 patent, and to do so without undue experimentation using methodologies that were commonly understood in the art.

It would further be obvious to combine any system identified in Section II.C.15 with any of the references charted in Exhibit K.

I. Regarding the '239 Patent

The '239 patent relates to the provision of assistance to a vehicle occupant based on vehicle-related information and an occupant's "persona."

The independent claims of the '239 patent recite the maintenance of a "persona" of a vehicle occupant (with examples of various types of information), the determination of "vehicle-related information" (with examples of various types, including location and travel data), the determination of a type of assistance to provide the vehicle occupant based on the persona and vehicle information, and performing an action assisting the occupant (again with examples of types of action). That is, the claims are directed to assisting a vehicle occupant based on information about the occupant and the vehicle. This concept was well known and routine to the person of ordinary skill in the art before the earliest priority date of the '239 patent. For example, long before the '239 patent, the OnStar system implemented location-based assistance to a vehicle occupant based on information about occupant and the vehicle, including location. *See e.g.,* Shanna Freeman, "How OnStar Works (Feb. 8, 2006) available at <https://auto.howstuffworks.com/onstar.htm/> ("If you're in an accident your car can 'tell' OnStar without you having to do a thing. Most people still associate OnStar with emergencies, but today's