Guidelines for JSAE Annual Congress Manuscripts

The 31st edition (February 18, 2026)

10-2 Gobancho, Chiyoda-ku, Tokyo 102-0076
Society of Automotive Engineers of Japan, Inc.

I. Manuscripts of Proceedings Paper and Summarized Paper Drafting Procedure, and PDF Conversion Procedure

1. Drafting Procedure of Manuscript

(1) Official Languages
Japanese or English, which must be same for oral presentation

(2) File Format
PDF

(3) Color
Drawings and photos may be submitted in color.

(4) Format (*Be sure to use the manuscript template posted on the JSAE Annual Congress website*)

① Page Setup
A4 size; 25mm top and bottom margins / 18mm right and left margins

② Columns and Lines
Two-column layout / 47 lines per column / 27 characters per line
Column height 247 mm / Column width 84.5 mm / 5 mm between left and right columns

③ Pages
Japanese manuscript From 2 pages Up to 6 pages
(For the speaker who is planning to submit for Transactions of JSAE or IJAE, 2 pages)
English manuscript From 2 pages Up to 8 pages
(For the speaker who is planning to submit for IJAE, 2 pages)

(5) Manuscript (*Please refer to the manuscript sample on the JSAE Annual Congress website*)

① Presentation Number and Document Control Number
The administrator will add the Presentation Number and Document Control Number. Authors should not add these numbers.

② Main Title
⇒ 16-point, Times New Roman, upper and lower case

③ Sub-title
Avoid using a sub-title as much as possible, unless a sub-title is necessary to provide a supplementary explanation. If it is unavoidable to include one, place a dash "-", at the beginning and the end.
However, if the presentation is part of a series of related presentations, include "(Report No. X)" at the beginning of the sub-title.
⇒ 11-point, Times New Roman, upper and lower case

④ Authors' Names
a. Put the main author's name first, including first and last names.
b. If there are multiple authors, limit the cited names only to those who made a significant contribution to the research.
c. Omit positions, ranks, and titles.
d. Append a superscripted footnote number followed by a right parenthesis to each author's name. For authors of same affiliation give the same number.
Examples: Taro Jidosha [1)] John Smith [2)]
⇒ 11-point, bold, Times New Roman
e. Please list the author's affiliation as the institution at which the research was conducted.
f. Append an underline to the speaker's name.
Example: <u>John Smith</u> [2)]

⑤ Abstract
Explain the essential points in 100 words to 200 words
⇒ 9-point, Times New Roman

⑥ Keywords
a. Select each keyword from Categories 1, 2, and 3 in the Standardized Keywords list.
A selection must be made from Category 1.
b. Select suitable keywords from the title, abstract or main text that are related to the content of the paper.
c. Put the word "Standardized" before the Standardized Keywords, and "Free" before the Author-selected keywords
⇒ (Standardized keywords) 9-point, bold, Times New Roman, upper and lower case
(Author-selected keywords) 9-point, Times New Roman, upper and lower case

⑦ Category Code

Select a Category Code from the Standardized Keywords list, and put the code after the keywords inside square parentheses ( ).

⇒ 9-point, Times New Roman

⑧ Main Text

Please clearly describe the purpose, contents, and conclusion of the research, using the sample structure below as a reference and ensuring compliance with the ethical guidelines of the JSAE. Company and product names, terminology whose usage is restricted to within a particular company, and commercial content may not be included in the main text.

(Sample Structure)

a. Introduction (Purpose of the research, brief overview of the content, etc.)
b. Main Body (Theoretical analysis, experimental apparatus and methods, results, interpretation of results, and discussion, etc.)
c. Conclusion (Final summary of findings and overall conclusions, etc.)
d. References

The structure above is a general example. Authors are encouraged to choose the most effective format best suited to their specific content.

⇒ 9-point, Times New Roman

⑨ Figures (and Photographs) and Tables

a. Place figure titles below the figures and table titles above the tables.
b. As a rule, figures and tables should fit within a single column. If a figure or table cannot fit within one column, it may span two columns. Create larger figures for experimental apparatus or those illustrating key results. Even if blank space appears alongside a figure or table, try to avoid placing main text in that space whenever possible.

⇒ Titles: 9-point, Times New Roman
⇒ Characters in figures and tables: 7-point or larger

⑩ Information of Authors

a. Put the authors' affiliations, addresses (including zip codes), and email addresses in italics under the authors' names.
b. Collect multiple authors working for the same affiliation above a single address.
c. Put the presentation date and congress name under the authors' information.

⇒ 9-point, Times New Roman

Example: **Main author's Name [1)] Co-author's Name [1)] Co-author's Name [2)]**

1), 2) The University of JSAE, Graduate School of Engineering
10-2 Gobancho, Chiyoda, Tokyo, 102-0076, Japan (email: taro@jsar.or.jp)

⑪ Manuscript Publication (Release) Date

The administrator will add the name and publication (release) date of the presentation in the footer on page 1. Authors should not add this information.

⑫ References

References are listed after the main text of the paper. In the main text, cite references in numerical order by order of citation, using superscript round brackets e.g. (1), (2, 3), (4-7) etc. If available, the Digital Object Identifier (DOI) should be included. When references are cited in the text by the auth or's name, please see the following examples: Anderson[#(1)], Brown and Chen [(2)], or Dixon, et al.[(3)].
If a title is not in English, please provide the translated title in English within square brackets.
In addition, when the main text is not in English, include "(in language)" e.g. (in Japanese).
For articles with 1 to 6 authors, list all authors. For articles with more than 6 authors, list the first 6 authors then add 'et al.'

⇒ 9-point, Times New Roman

Examples of reference types and how to format them are as follows:

a. Conference paper

Y. Imaoka, Y. Hashizume, T. Inoue, and T. Shiraishi, A Study of Particulate Emission Formation Mechanism from Injector Tip in Direct-injection Gasoline Engines, JSAE/SAE 2019 International Powertrains, Fuels & Lubricants Meeting, JSAE 20199053, Kyoto, Japan, Aug. 26-29, 2019.

b. Journal article

P-P. Ewphun, M. Otake, T. Nagasawa, H Kosaka., and S. Sato, Investigation on Effect of Offset Orifice Nozzle under Multi Pulse Ultrahigh Pressure Injection and PPC Combustion Conditions, International Journal of Automotive Engineering, vol. 11, no. 1, pp. 1-8, 2020, doi: 10.20485/jsaeijae.11.1_1.

c. Preprint
R. Devidas and J. Babu, Smart Transportation Methods: Optimizing Efficiency in Urban Commute, SAE MobilityRxiv®, Preprint, submitted Mar. 15, 2021, doi: 10.47953/SAE-PP-00107.

d. Book
D. Frenkel and B. Smit, Understanding Molecular Simulation: From Algorithms to Applications. 2nd ed., Cambridge, Academic Press, p. 664, 2002.

e. Personal communication
Smith, R., General Motors Corporation, personal communication, Feb. 22, 2007.

f. Patent
Wilkinson, J., Nonlinear resonant circuit devices, US Patent 3,624,124, Jul. 16, 1990.

g. Internet reference
International Organization for Standardization, Developing standards, https://www.iso.org/developing-standards.html, accessed May 10, 2020.

h. Thesis/Dissertation
Mathuria, P., Transfer Path Analysis of Diesel Engine Noise Using Statistical Energy Analysis, PhD thesis, Indian Institute of Technology, 2000.

i. Software
The Interactive Tester (Version 4.0), computer software, Psytek Services, 1993.

⑬ Other Important Points

a. Please avoid the use of company names, product names, and commercial content in the title and text.
b. Manuscripts describing research involving human subjects must state that experiments and so on were accepted by an Ethics Review Board or the like and that the participants in these experiments provided their informed consent.
See the following address for the Ethical Guidelines for Research Involving Human Subjects:
http://www.jsae.or.jp/e01info/kenkyu_rinri_e.pdf
c. Assign numbers to chapters, sections, and sub-sections. Each number should be a combination of Arabic numeral(s) and period(s). As a rule, up to 3 levels of headings (chapter, section, and sub-section) can be used.
d. Where an abbreviation is used, use the original term, regardless of whether it is a common noun or proper noun. If the abbreviation is not in general use, then the first time the term appears in the text, use the unabbreviated term followed by the abbreviation in parentheses. Use the abbreviation in all subsequent cases. The character style should be normal.
e. Technical terms shall conform to the technical terms established by the Ministry of Education, as well as to the terminology standards of JIS and JASO. Non-technical terms shall also conform to the terms established by the former Ministry of Education, where applicable. Where the official terms are not applicable, use appropriate common expressions.
f. Where a number with a large number of digits is used, place a comma after every third digit, moving leftward from the decimal point. Commas are not used to the right of the decimal point.
g. Use the International System of Units (SI). For important numerical values, conventional units may also be used.
h. See JIS Z 8202 (Quantities and Units) for quantity symbols, JIS Z 8201 (Mathematical Symbols) for mathematical symbols, the international chemical symbols for chemical symbols, and JIS B 0001 (Technical Drawings for Mechanical Engineering) for drawing symbols.
i. Mathematical equations must be written within the width of a single column and cannot run over to the next column. If the equations are numbered sequentially, place the numbers in parentheses and to the right of the equations. Refer to equations in the text as Equation (1), Equation (2), and so on. Letters and symbols used to indicate equations and physical quantities shall be in italics and units shall be in English.

2. Drafting Procedure of Manuscript of Summarized Paper

(1) Official Languages
English

(2) File Format
PDF

(3) Color
Drawings and photos may be submitted in color.

(4) Format *(Be sure to use the summarized paper template on the JSAE Annual Congress website.)*
① Text
A4 size; 25mm top and bottom margins / 18mm right and left margins
② Columns and Lines
One column layout / 52 lines per column / 46 characters per line
③ Pages
One page

(5) Summarized Paper (*Please refer to the Summarized Paper sample on the website of JSAE Annual Congress.*)
① Presentation Number and Document Control Number
The administrator will add the Presentation Number and Document Control Number. Authors should not add these numbers.
② Main Title
⇒ Please refer to Section 1. (5)-②, 16-point, Times New Roman, upper and lower case
③ Sub-title
⇒ Please refer to Section 1. (5)-③, 11-point, Times New Roman, upper and lower case
④ Authors' Names
⇒ Please refer to Section 1. (5)-④, 11-point, bold, Times New Roman
⑤ Author's Place of Employment (Affiliation)
⇒ Please refer to Section 1. (5)-④, 9-point, Times New Roman in italic
⑥ Manuscript Publication (Release) Date
The administrator will add the name and publication (release) date of the presentation in the footer on page 1. Authors should not add this information.
⑦ Keywords
⇒ Please refer to Section 1. (5)-⑥,
(Standardized keywords) 9-point, bold, Times New Roman, upper and lower case
(Author-selected keywords) 9-point, Times New Roman, upper and lower case
⑧ Category Code
⇒ Please refer to Section 1. (4)-⑦, 9-point, Times New Roman inside square parentheses [ ]
⑨ Main Text
⇒ Please refer to Section 1. (4)-⑧, 9-point, Times New Roman
⑩ Figures (and Photographs) and Tables
Please put in at least one figure (or photo) or table that represents the content of the paper.
Place figure titles below the figures and table titles above the tables.
⇒ Titles: 9-point, Times New Roman
⇒ Characters in figures and tables: 7-point or larger

3. Converting to PDF File

(1) The use of **Adobe Acrobat 8.0** or above is recommended for converting papers to PDF files properly.
(2) All fonts must be embedded. PDF quality settings must always be set to Press Quality.
(3) Set the color mode to "Color".
(4) Set the resolution to at least 300 dpi for color or grayscale figures and photographs, and to at least 600 dpi for monochrome figures and photographs.
(5) The size of the PDF file should not exceed 8 MB for the manuscript and 1 MB for the Summarized Paper.
(6) The manuscript and Summarized Paper should be converted into separate PDF files.
(7) Do not make any security settings on the PDF file.

4. Uploading of PDF File

(1) Both the manuscript and Summarized Paper must be submitted through the Presentation Registration System after logging in by registration number and password.
(2) Upload files using the ".pdf" extension.

(3) The manuscript and Summarized Paper files should be uploaded at the same time. Manuscripts may be reviewed and re-uploaded at any time before the paper submission deadline.
(Papers cannot be revised after the paper submission deadline.)

II. Presentation Slides(e.g. PowerPoint) Drafting Procedure

1. Presentation Documents (e.g. PowerPoint)

(1) Official Languages
Presentation slides must be described in English for Spring Congress. For Autumn Congress English or Japanese are acceptable.

(2) File Format
PowerPoint, others

(3) Contents
① Follow the contents of the manuscript.
② Avoid including commercial content, such as product names, affiliated organization names or their logos. (However, affiliated organization names and the attendant logos may be used on the first page only.)

(4) Important Points
① Deal with only one topic per page, using one minute per slide as a guideline.
② Limit explanations based on equations or characters to between 7 and 10 lines on a single page. Symbols and characters are easier to read if set to a font size of 24 pt. or higher.
③ Use English for graph or table titles and terms.
④ When presenting English and Japanese side-by-side, translating only the key terms and sentences rather than presenting a full translation is acceptable.
Keep the audience in mind and prepare easy to see and understand presentations.

III. Keywords

1. Keywords

Keywords consist of two types: Standardized and Author-selected.

(1) Standardized Keywords

Select the first keyword from Category 1 in the Standardized Keywords, the second one from Category 2, and the third one from Category 3.

(2) Author-selected Keywords

The author selects suitable keywords from the title and/or main text in accordance with procedure below.

[1] Select phrases that have specific meanings and are as narrowly defined as possible.

(NA) Critical, Speed ⇒ Critical Speed

(NA) Life ⇒ Tool Life, Fatigue Life

[2] Use noun forms

(NA) Studied Experimentally ⇒ Experimental Study

[3] Limit the use of abbreviations to those that are widely and globally used in the particular field. (As a rule, author-invented terms must not be used.)

(NA) ATC ⇒ Automatic Tool Change, Automatic Train Control

[4] Compound words and phrases must be ones that are commonly used.

(NA) Fatigue Strength at Elevated Temperature

⇒ Fatigue Strength, Elevated Temperature

[5] Spell out the full names of alloys, chemical compounds, elements, and nuclides instead of using symbols.

(NA) CrMo Steel ⇒ Chromium Molybdenum Steel

(NA) Al2O3 ⇒ Aluminum Oxide

(NA) Cu ⇒ Copper

[6] When there are multiple words with the same or similar meanings, choose the most concise and frequently-used one.

[7] If unsure whether to include or delete any content, include it.

自動車技術会基準キーワード
Automotive Technology: Standardized Keywords

2010年5月発行/Issued: May 2010
2013年10月改訂/Revise:October 2013
2025年10月改定/Revised October 2025

(*) ・・・ 英略語は末尾にフルスペルを表記
(*): Items marked with an asterisk are spelled out in the definition.

	目的・分野 Purpose/field	目的の対象 (もの、ハードおよびソフト)	Objects/hardware/software	手法・内容および技術要素	Means/details/component technologies
分類 Category Code	第1カテゴリー Category 1	第2カテゴリー	Category 2	第3カテゴリー	Category 3
(A1)	①熱機関 heat engine	圧縮着火機関	compression ignition engine	計測/診断/評価	measurement/diagnosis/evaluation
		火花点火機関	spark ignition engine	数値計算	numerical calculation
		予混合圧縮着火	homogeneous charge compression ignition	設計/制御	design/control
		新型機関	new combustion model/new combustion model engine	理論/モデリング	theory/modeling
		ロータリ機関	rotary engine/rotary combustion engine	性能/燃費/効率	performance/fuel economy/efficiency
		スターリング機関	Stirling engine	燃焼解析	combustion analysis
		ガスタービン/蒸気タービン	gas turbine/steam turbine	排出ガス/有害排出物	emissions gas/harmful emissions
		エンジン部品・要素	engine component or element	燃料噴射/燃料噴霧	fuel injection/fuel spray
		ターボチャージャ/VGターボ	turbocharger/variable geometry turbo	吸排気	intake and exhaust
		スーパーチャージャ	supercharger	過給	supercharging
		可変動弁機構	variable valve train	混合気形成/ガス流動	mixture formation/gas flow
		エンジン補機類	engine accessory	燃料改善/燃料改質	fuel improvement/fuel
		ターボコンパウンド	turbo compound	添加剤	additive
		後処理システム	post treatment system	潤滑/トライボロジー	lubrication/tribology
		三元触媒	three-way catalyst	振動/騒音	vibration/noise
		deNOx触媒/SCR脱硝/NOx還元触媒	de-NOx catalyst/selective catalytic reduction NOx removal/NOx reduction catalyst	冷却	cooling
		微粒子フィルタ	particulate filter		
		燃料/代替燃料	fuel/alternative fuel		
		ガソリン/軽油/灯油/重油	gasoline/light oil (gas oil/diesel oil)/heavy oil		
		エタノール/BDF	ethanol/bio-diesel fuel		
		LPガス/天然ガス/水素	liquefied petroleum gas/natural gas/hydrogen		
		DME/FT合成油	dimethyl ether/Fischer-Tropsch synthetic oil		
		潤滑油/エンジンオイル	lubricating oil/engine oil		
(A2)	②動力伝達系 power transmission	発進システム	start control system	加工	machining
		変速機	transmission	材料	material
		デファレンシャル/終減速機	differential/final reduction gear unit	強度	strength
		MT	manual transmission	疲労	fatigue
		AT	automatic transmission	機構	mechanism
		CVT	continuously variable transmission		
		AMT/DCT	automated manual transmission/dual clutch transmission		
		新型トランスミッション	new type transmission		
		動力分配システム	transfer		
		AWDシステム	all-wheel drive system		
		ハイブリッドシステム	hybrid system		
		駆動軸/ジョイント	drive axle/joint		
		クラッチシステム	clutch system		
		歯車/ギアシステム	gear/gear system		
		ドライブトレイン	drivetrain		
		ベルトドライブ/トラクションドライブ/チェーンドライブ	belt drive/traction drive/chain drive		
		制御システム	control system		
		油圧システム	hydraulic equipment		
		同期機構	synchromesh		
		軸受	bearing		
		潤滑油/トランスミッションオイル	lubricating oil/transmission oil		
(A3)	③EV・HVシステム (*) EV and HV systems	モータ	motor	モータ特性	motor characteristics
		モータ駆動システム	motor drive system	電気動力変換	electric power conversion
		インバータ/コンバータ	inverter/converter	エネルギー回生	energy regeneration
		パワーコントロールユニット	power control unit	システム技術	system technology
		電池技術	battery technology	充電インフラ	filling infrastructure
		リチウムイオン電池/ニッケル水素電池/鉛電池	lithium ion battery/nickel-metal hydride battery (nickel hydrogen battery)/lead-acid battery	動力分割	power split
		SOC	state of charge (SOC)	絶縁	insulation
		充電/放電	charge/discharge	標準化	standardization
		車載充電システム	onboard charging system	法規	regulation
		蓄電システム	power storage system	電気安全（感電防止）	electrical safety (electric shock prevention)
		電動補機/空調	electrical accessories/air conditioning	EMC	electromagnetic compatibility

		補機システム	accessories	普及政策	policy of popularization
		プラグインハイブリッド	plug-in hybrid	エネルギーバランス	energy balance
		燃料電池	fuel cell	エネルギーマネジメント	energy management
		スタックセル	stack cell	冷却/熱・温度マネージメント	cooling/heat and temperature management
		水素タンク	hydrogen tank		
		水素製造/改質	hydrogen production/hydrogen reforming		
		エネルギー充填/水素充填/インフラ	energy replenishment/hydrogen filling/infrastructure		
		エネルギー制御システム	energy control system		
		ブレーキ制御/回生協調ブレーキ	brake control/regenerative-friction brake coordination		
(B1)	**④車両運動** **vehicle dynamics**	電子スタビリティ制御	electronic stability control	運動制御	motion control
		サスペンションシステム	suspension system	車両動力学	vehicle dynamics
		電子制御サスペンション	electronically controlled suspension	評価技術	evaluation technology
		ブレーキシステム	brake system	ドライバモデル	driver model
		ブレーキバイワイヤ/ABS	brake-by-wire/antilock brake system (ABS)	操縦安定性	driving stability
		ステアリングシステム	steering system	力学モデル	dynamic model
		ステアバイワイヤ/パワーステアリング	steer-by-wire/power steering	道路環境認識	road environment recognition
		タイヤ/ホイール	tire/wheel	運転意図認識	driver intention recognition
		シャシ/コンポーネント	chassis/component		
		車間距離自動維持運転システム	adaptive cruise control system		
		車線維持支援システム	lane-keeping assistance system		
		横滑り防止装置	electronic stability control		
		二輪車/大型車両/特殊車両/航空機	motorcycle/heavy duty vehicle/special vehicle/aircraft		
(B2)	**⑤車両開発** **vehicle development**	プラットフォーム	platform	性能計画	performance plan
		CAD/CAM/CAE	computer-aided design (CAD)/computer aided manufacturing/computer aided engineering	エクステリア/インテリア	exterior/interior
		パーソナルモビリティ	personal mobility	カラー	color
		ホワイトボデー	body shell/white body/body in white	車体構造/車体設計	body structure/body design
		バンパ/ボデー外板	bumper/body model	構造部材解析	structural member analysis
		インストパネル	instrument panel	車両計画	vehicle plan
		シート/照明	seat/lighting	軽量化	weight reduction
		デザイン	design	設計最適化/ロバスト設計	design optimization/robust design
		HILS	hardware in the loop simulation	設計シミュレーション/設計ツール/設計モデリング	design simulation/design tool/design modeling
				短期試作/仮想進行	rapid prototyping/virtual planning
				車両用途	vehicle application
				モータスポーツ	motor sports
				信頼性	reliability
				負荷シミュレーション	load simulation
(B3)	**⑥振動・騒音・乗り心地** **vibration, noise, and ride comfort**	パワートレイン/車体/エンジン懸架系	power train/body (vehicle body)/engine mounting system	CAE解析/予測/最適化	CAE simulation/forecast/optimization
		吸排気システム/駆動系	intake and exhaust system/drive line (drivetrain)	有限要素法/境界要素法	finite element method (FEM)/boundary element method (BEM)
		サスペンションシステム	suspension system (suspension)	評価技術/計測技術/音源探索技術	evaluation technology/measurement technology/sound source search technology
		ブレーキ/タイヤ	brake/tire	マルチボディダイナミクス	multi-body dynamics
		車体構造/車体材料	body structure/body material	統計的エネルギー解析法	statistical energy analysis
		防音材	acoustic material	フルビークル解析	full-vehicle simulation
		補機・デバイス騒音	accessory and device noise	実験解析技術	test and analysis technology
		アイドル振動騒音/加速時騒音	idling vibration/idling noise/acceleration noise	最適化技術	optimization technique
		こもり音/振動	booming noise/vibration	音質評価/乗心地評価	sound quality evaluation/ride comfort evaluation
		静粛性	quietness	デバイス技術/制御技術	device technology/control technology
		ドラミング（低周波ロードノイズ）	drumming noise (low frequency road noise)	モード解析/伝達経路解析/流体騒音解析	modal analysis/transfer path analysis/fluid induced noise analysis
		ロードノイズ/パターンノイズ	road noise/pattern noise		
		パワートレイン揺動（始動/発進/変速）	powertrain oscillation (powertrain start/vehicle start/shift)		
		うなり音（パワートレイン/駆動系）	whine/growl/beat noise (powertrain/drive line (drivetrain))		
		ギア音	gear noise		
		乗り心地	ride comfort		
		ハーシュネス	harshness		
		シミー	shimmy		
		走行車体振動	body vibration while driving		
		風切り音	wind noise		
		ブレーキ鳴き/ジャダー	brake noise/judder		
		車外騒音/騒音規制	exterior noise/noise regulation		

(C1)	**⑦安全** **safety**	衝突安全/火災安全/予防安全/統合安全	passive safety (collision safety/crash safety)/fire safety/active safety/combined active and passive safety/integration control/integrated control	道路環境認識	road environment recognition
		安全教育	safety education	画像処理/情報処理	image processing/information processing
		素材可燃性テスト	material flammability test	知能化/コンピュータ応用	intelligent/computer application
		抑制システム	suppression system	乗員検知/乗員の安全	occupant detection/occupant safety
		救命救急/乗員保護/歩行者・2輪乗員保護/交通弱者保護	first aid/occupant protection/pedestrian and bicycle and motorcycle rider protection/protection for vulnerable road users	被害軽減	damage mitigation
		事故回避/衝突予知	accident avoidance/collision prediction	衝撃吸収・緩和	energy-absorbance and impact attenuation
		衝突試験	crash test	事故解析/事故統計解析	accident analysis/statistical accident analysis
		後方衝突/側方衝突/前方衝突	rear end collision/side impact/frontal collision	事故調査・分析	accident investigation and analysis
		防火	fire protection	ヒヤリハット解析	near-miss analysis
		プリクラッシュ	pre-crash	救命率/初療開始	survival rate/start of initial treatment
		コンパチビリティ	compatibility	傷害予測	injury prediction
		ドライビングシミュレータ	driving simulator	傷害メカニズム	injury mechanism
		エアバッグ/シートベルト	air bag/seat belt	事故再現/事故復元	accident reconstruction/accident re-creation
		人体モデル/ダミー	anthropomorphic dummy/crash test dummy	安全人体モデル	anthropomorphic dummy
		ドライブレコーダ/EDR	drive recorder/event data recorder	車両転覆	rollover
		車体構造	body structure	センサ技術	sensor technology
		シート/ヘッドレストレイント	seat/head restraint	高齢者耐性/高齢者運転特性	injury tolerance of older people/characteristics of older drivers
		高齢者保護/こども保護	protection of older people/child protection	受傷部位/加害部位	injured area/impacting area
		CRS	child restraint system	重傷度（AIS）	abbreviated injury scale
		妊婦乗員保護	expectant mother protection	車両運動制御/エアバッグ制御	vehicle dynamics control/airbag control
		歩行者検知/保護	pedestrian detection/protection	車線維持制御	lane-keeping control
		自動ブレーキ	automatic brake	ナビゲーション	navigation system
		被害軽減ブレーキ/警報	damage mitigation brake/warning	車車間・路車間通信	vehicle-to-vehicle and infrastructure-to-vehicle communication
		知能化自動車	intelligent vehicle	運転支援/ドライバ支援	driving support/driver support
		ACC	adaptive cruise control	ISS	injury severity score
		道路環境	road environment	マクロデータ/ミクロデータ	macro data/micro data
		交差点カメラ	intersection camera	リスクカーブ	risk curve
		傷害データベース	injury database	加害性	risk
		臨界安全システム	critical safety system	デルタV	delta-v/change in velocity
		シートベルトリマインダ	seat belt reminder	回避行動	evasive action
		事故通報システム（ACN）	automatic crash notification/automatic collision notification	試験/評価	test/evaluation
		ドクターヘリ/ドクターカー	doctor helicopter/doctor car	第三者評価	third-party evaluation
		免許制度	licensing system	法規	regulation
		傷害基準	injury criteria	CAE	computer aided engineering
		インパクタ	impactor		
		ヘルメット	helmet		
(C2)	**⑧人間工学** **human engineering**	高齢者	elderly person (people)	高齢者対応	elderly person (people) support
		人体傷害	human body injury	実験倫理/技術倫理	experiment ethic/engineering ethic
		バイオメカニクス	biomechanics	ストレス/主観/パフォーマンス評価	stress/subjective view/performance evaluation
		生体計測/運転心理	bioinstrumentation/driving psychology	ドライバセンシング/ドライバモニタリング	driver sensing /driver monitoring
		ドライバ状態	driver condition	ドライバモデル/ライダーモデル	driver model/rider model
		認知反応時間	cognitive reaction time	ドライバ状態モニタリング	driver condition monitoring
		居眠り/飲酒	drowsiness/alcohol drinking	ドライバ特性/ドライバ行動/ドライバ疲労/ドライバ注意	driver characteristics/driver behavior/driver fatigue/driver attention
		タスク負荷	task load/driver burden	運転特性	driving characteristics
		心拍測定	cardiotachometry	ドライビングシミュレータ	driving simulator
		リスク補償	risk compensation	視界/視認性/操作性/制御性/乗降性/快適性	field of vision/visibility/operability/controllability/ease of egress and ingress/comfort
		過信/不信	overconfidence/disaffection	聴覚/力覚/触覚	sense of hearing/sense of force/haptic sense
		ヒューマンインタフェース	human interface	認知/判断	recognition/judgment
		車酔い/香り/覚醒	car sickness/aroma/awakening	操作	operation
		疲労/負担	fatigue/workload	運転姿勢	driving posture
		ディストラクション	distraction	個人差	individuals difference/variation
		ワークロード	workload	精神負担/身体負担	mental workload/physical workload
		リスク認知	risk recognition	脳・神経系/筋・骨格系	cerebral nerve system/musculoskeletal system

		ヒューマンエラー	human error	生体計測/生体力学	bioinstrumentation/biomechanics
		感性/視覚/視認性	sensitivity/vision/visibility	運転支援	driving support/driver support
		HMI	human machine interface	警報	alarm/warning
		警報システム	warning system	生理計測	physiological measurement
		情報提供システム	information systems	自律神経/中枢/内分泌	automatic nervous system/central nervous system/endocrine secretion
		意図確定	intent determination	視覚系/嗅覚系	visual system/olfactory system
		運転能力	driving ability	形態・動態特性/感性・知覚特性	morphological and dynamic characteristics/perceptual and sensory characteristics
		ドライブレコーダ	drive recorder	操作量/作業成績	operation amount/operational performance
		質問紙/インタビュー	questionnaire/interview	行動観察	behavior observation
		運転行動	driving act/driver behavior	精神・肉体疲労	mental and physical fatigue
		ユーザビリティ	usability	HMI	human machine interface
		温熱環境	thermal environment		
		ドライビングポジション	driving position		
		メンタルモデル	mental model		
		顔表情	facial expression		
(D1)	**⑨熱・流体** **heat・fluid**	車体/エンジン/吸排気系/部品要素	body/vehicle body/engine/intake and exhaust system/part element	CFD	computational fluid dynamics
		空力性能/空力騒音	aerodynamic performance/aerodynamic noise	風洞試験	wind tunnel test
		ラジエータ/オイルクーラ	radiator/oil cooler	アルゴリズム/モデリング	algorithm/modeling
		油冷システム/空冷システム	oil cooling system/air cooling system	車室内環境	interior environment
		エアコンディショナ	air conditioner	エンジン冷却	engine cooling
		冷媒	refrigerant	空調/快適性	air conditioning/comfort
		空気質/臭い	air quality/odor	温度制御/環境制御	temperature control/environmental control
				熱害	heat damage
(D2)	**⑩環境・エネルギー・資源** **environment・energy・resources**	リサイクル	recycling	環境重視型生産	environmentally conscious production
		リユース	reuse	環境指向型生産設計/リサイクル設計	environment-oriented production design/recycle
		レアメタル/レアアース	rare metal/rare earth	メンテナンス	maintenance
		ISO14000	ISO14000	基準	standard
		太陽光/風力	sunlight/wind power	国際環境政策/政策分析	international environmental policy/policy analysis
		LCA	life cycle assessment	材料リサイクル	material recycling
		大気環境/水質環境/土壌環境	air quality/water quality/soil environment	ライフサイクル管理	life cycle management
		排出ガス	emissions/emission gas	設計/生産	design/production
		燃費/熱効率	fuel economy/thermal efficiency	高耐用技術	long service life technology
		新エネルギー	new energy	規制/政策/標識	regulation/policy/marking
		再生可能エネルギー/リニューアブルエネルギー	recyclable energy/renewable energy	健康影響	health effects
		燃料/代替燃料	fuel/alternative fuel	評価モード	evaluation mode
		有害大気汚染物質	hazardous air pollutant	国際基準調和	global standard harmony
		温暖化ガス	heat-trapping gas/greenhouse gas	製造/使用/廃棄段階	manufacturing/use/disposal stage
		VOC	volatile organic compound	エネルギー製造	energy manufacturing
				気候変動	climate change
(D3)	**⑪材料** **materials**	鉄鋼材料	iron and steel materials	試験/評価	test/evaluation
		軟鋼板/高張力鋼板/表面処理鋼板	low carbon steel sheet/mild steel sheet/high-strength steel sheet/surface treated steel sheet	モデリング	modeling
		ステンレス鋼	stainless steel	負荷シミュレーション	load simulation
		特殊鋼	special steel	信頼性/ロバスト設計	reliability/robust design
		鋳鉄	cast iron	防錆	rust prevention
		焼結材料/粉末合金	sintering material/powder alloy	軽量化	weight reduction/mass reduction
		非鉄材料	non-ferrous material	強度/剛性/耐磨耗	strength/stiffness/rigidity/wear resistance
		アルミニウム合金/マグネシウム合金/チタン合金	aluminum alloy/magnesium alloy/titanium alloy	疲労	fatigue
		複合材料	composite material	耐食/電食	anticorrosion/stray current corrosion/electrolytic corrosion
		高分子材料	polymer material	添加	addition
		エラストマ	elastomer	熱処理/焼き入れ	heat treatment/quenching
		ポリマー複合材	polymer composite material	表面処理/めっき	surface treatment/plating
		SMC	surface mount chip or sheet molding compound	鋳造/鍛造	casting/forging
		プラスチックリサイクリング	plastic recycling	接合/結合/溶接	joining/coupling/welding
		インストパネル	instrument panel	プレス技術	press technology/stamping technology
		バンパ/車体/外装	bumper/body/vehicle body/exterior	プロセス	process
		内装/シート	interior/seat	精錬	smelting
		接着剤	adhesive	加工性/リサイクル性	workability/recyclability
		塗料	paint	衝撃性/透明性	impact resistance/transparency

		エンジンコンポーネント	engine component	耐熱/耐油/耐燃料/耐水/耐光	heat resistance/oil resistance/fuel resistance/water resistance/light resistance/light fastness
		シール/ガスケット	seal/gasket	平滑性	smoothness
		窓ガラス	window glass	絶縁性能	insulation performance
		構造用セラミクス/エレクトロセラミクス	structural ceramics/electroceramics	ナノテクノロジー	nanotechnology
		二次電池材料/モータ用材料	secondary battery material (rechargeable battery material)/material for motor	破壊/酸化/劣化/耐熱性	fracture/oxidation/deterioration/degradation/heat resistance
		電磁鋼板	magnetic steel sheet	磁気特性	magnetic characteristics
		電解質	electrolyte	フリクション	friction
		永久磁石	permanent magnet		
		触媒	catalyst		
		グリース	grease		
(D4)	**⑫生産・製造 production・manufacture**	素形材	formed and fabricated materials	企画/意匠	planning/design
		成形加工	forming process	材料/コスト	material/cost
		付加加工	additional machining	プレス/樹脂（プラスチック）	press/resin (plastics)
		チームワーク設計	teamwork design	機械加工/高エネルギー密度加工	machining/high energy density machining
		量産試作	quantity production prototyping	接合/溶接/肉盛り	joining/welding/weld overlay
		鋳造/鍛造/組立/塗装/艤装	casting/forging/assembly/painting/rig/trim	CAT/評価/品質	computer-aided testing /evaluation/quality
		生産計画/製造計画/生産管理/製造管理	production plan/manufacturing plan/production management/manufacturing control	検査/測定	inspection/measurement
		品質管理/供給系管理/日程管理	quality control/supply control/schedule control/schedule management	設計/試作	design/prototyping
		金型	die/mold	モジュール	module
		熱処理/表面処理	heat treatment/surface treatment	トータルコスト	total cost
		設備/保守/メンテナンス	equipment/maintenance		
		調達/購買	procurement/purchase		
		一貫生産	continuous production		
		PLM/BOM/PDM/MES	product lifecycle management/bill of materials/product data management/manufacturing execution system		
(E1)	**⑬エレクトロニクス及び制御 electronics and control**	電子デバイス/パワーデバイス	electronic device/power device	データ転送・蓄積	data transfer and storage
		電源IC	power supply integrated circuit	ハードウエア・ソフトウエア標準化	hardware and software standardization
		車載マイコン/車載ASIC	microprocessor/application specific integrated circuit	テスト情報管理	information management
		車載SoC/GPU,NPU	system on chip/graphic processing unit, neural processing unit	試験/計測/診断	test/measurement/diagnosis
		ECU/PCU	electronic control unit/power control unit	信頼性/シミュレーション	reliability/simulation
		フィジカルセンサ/ケミカルセンサ	physical sensor/chemical sensor	制御システム/ソフト	control system/software
		MEMS	micro electro mechanical systems	電子物性	electronic properties
		電動アクチュエータ	electrical actuator	電気回路/電子回路	electric circuit/electronic circuit
		LEDライト	light emitting diode light	車両センサ/アクチュエータ	vehicle sensor/actuator
		灯火系	light	画像処理	image processing
		ワイヤーハーネス/電力系ワイヤハーネス	wiring harness/wire harness/electrical system wire harness	オンロードテスト/耐久テスト/部品レベルテスト	on-road test/duration test/durability test/parts level test
		EDR	event data recorder	新計測法	new measuring technique
		OBD	on-board diagnostics	知能化	intelligent
		ミリ波レーダ/レーザレーダ (Lidar)/UWB	millimeter wave radar/laser radar/ultra wide band radar	システム工学	system engineering
		半導体カメラ/赤外カメラ	semiconductor camera/infrared camera	機能安全	functional safety
		表示デバイス/操作デバイス/警報・情報提供デバイス	device/operation device/warning and information	電気機器	electrical equipment
		車庫入れ支援システム	parking assist system	パッケージ/アセンブリ/実装技術	package/assembly/packaging technology
		ドライバ状態検知制御システム/セキュリティ制御システム	driver state detection control system/security control system		
		HMI表示/HMI操作/HMI情報提供システム	human machine interface display/human machine interface operation/human machine interface information provision system		
		画像認識システム/音声認識システム	image recognition system/speech recognition system		
		知的制御システム/自律走行システム	control system/autonomous land system/autonomous driving system		
		電力システム	electrical system		
		エンジン制御/トランスミッション制御/シャシー制御	engine control/transmission control/chassis control		
		衝突安全制御/予防安全制御/知能化安全制御	passive safety control/active safety control/intelligent safety control		

		統合制御/車体系制御/バイワイヤ制御/EV・HEV制御	integration control/vehicle body control/by-wire control/electric vehicle and hybrid electric vehicle control		
		制御シミュレーション/HILS	control simulation/hardware in the loop simulation		
		エコカーエレクトロニクス	environmentally friendly car electronics		
		制御ナビゲーション	control navigation		
		EMC （EMI/EMS)	electromagnetic compatibility (electromagnetic interference/electromagnetic susceptibility)		
		ロボティックス	robotics		
		自動運転	autonomous driving		
		隊列走行	platooning		
(E2)	⑭情報・通信及び知能化 information, communication, and	LIN	local interconnect network	車車間通信	inter-vehicle communication/vehicle-to-vehicle communication
		CAN	controller area network	情報システム	information system
		FlexRay	FlexRay	オーディオ	audio
		PLC	power line communication	ナビゲーション	navigation system
		車載高速通信	high-speed communication	環境認識	environment recognition
		ブルートゥース	Bluetooth	通信システム	communication system
		無線LAN	wireless local area network	室内ネットワーク/車両ネットワーク	interior network/vehicle network
		UWB通信	ultra wide band communication	IT/ITS	information technology/intelligent transport system
		WiMax	Worldwide Interoperability for Microwave Access	メディア情報	media information
		セルラー通信	cellular communication	エコドライブ	eco-drive/environmentally friendly driving
		インタネット通信	Internet communication	音声/物体認識	speech recognition/object Recognition
		V2X（ワイヤレス）	vehicle to everything communication	光通信	optical communication
		V2G/V2X（電力線）	vehicle to grid	WEBコンテンツ	web contents
		インタナビ交通情報	traffic information	分散処理システム	distributed processing system
		HDラジオ	HD Radio	マルチコアCPU	multi-core CPU
		PND	portable navigation device/personal navigation device	オペレーションシステム	operating system
		ドライブレコーダ	drive recorder		
		車両ナビゲーション/コミュニケーションシステム	vehicle navigation system/communication system		
		IVI/車載インフォテイメント	in vehicle infotainment		
		クラウドシステム	cloud system		
		スマートグリッド	smart grid		
		リモートダイアグ	remote diagnostics		
		電子すかし技術	digital watermark technology		
		セキュア通信プロトコル	secure communication protocol		
		ネットワークトレーサビリティ	network traceability		
		車載多重通信システム	on-board multiplex communication system		
		コネクティッドカー	connected car		
		遠隔操作	remote control		
	⑮ソフトウェアとその要素技術 software and its underlying technologies	ブロックチェーン	blockchain	最適化アルゴリズム	optimization algorithm
		サイバー攻撃手法	cyberattack methods	形式手法	formal methods
		ソフトウェアパーティショニング	software partitioning	並列/分散アルゴリズム	parallel/distributed algorithms
		データマイニング	data mining	量子技術	quantum technology
		データ可視化	data visualization	機械学習	machine learning
		データ表現フォーマット	data representation format	クラウドコンピューティング	cloud computing
		ファイルシステム	file system	エッジコンピューティング	edge computing
		データベース	database	IoT	IoT
		通信ミドルウェア	communication middleware	Web技術	web technologies
		言語処理系	language processing system	ユーザインタフェース/UX	user interface/UX
		オペレーティングシステム	operating system	マルチメディア	multimedia
		分散フレームワーク	distributed framework	計測・制御ソフトウェア	measurement and control software
		自動運転システムプラットフォーム（Autoware、Apollo)	autonomous driving system platform (Autoware, Apollo)	セーフティ（機能安全, SOTIF)	safety (functional safety, SOTIF)
		ビークルOS	vehicle OS	サイバーセキュリティ	cybersecurity
		モデリング言語	modeling language	プライバシー保護	privacy protection
		HILS，SILS	HILS, SILS	AI・データ解析	AI and data analysis
		デザインパターン	design pattern	ビッグデータ	big data
		プログラミング言語	programming language	データストレージ	data storage
		コーディングガイドライン	coding guidelines	通信ソフトウェア	communication software
		オートコード	auto code	ソフトウェアプラットフォーム	software platform
		テストフレームワーク	test framework	SDV	SDV
		デバッグツール	debug tool	ECU統合	ECU integration
		プロファイラ	profiler	ソフトウェア開発方法論	software development methodology
		テストカバレッジ	test coverage	ソフトウェア開発プロセス	software development process
		CI/CT	CI/CT	要求分析	requirements analysis
		能力評価モデル	CMMI (capability maturity model integration)	System-of-systems	system-of-systems
		アシュアランスケース	assurance case	システムズエンジニアリング/MBSE	systems engineering/MBSE
		セキュリティオペレーションセンター	security operation center	ソフトウェアアーキテクチャ	software architecture

(E3)		インシデント対応	incident response	CAE/シミュレーション	CAE/simulation
		脆弱性管理	vulnerability management	デジタルツイン	digital twin
		SBOM	SBOM	ソフトウェア設計	software design
		フォレンジック	forensic	コーディング	coding
		生成AI	generative AI	ソフトウェアテスト	software testing
		SLAM	SLAM	性能評価	performance evaluation
		ダイナミックマップ	dynamic map	ソフトウェア品質保証	software quality assurance
		侵入検知	intrusion detection	情報システム運用	information system operation
		耐量子暗号	post-quantum cryptography	DevOps	DevOps
		メッセージ認証コード	message authentication code	ソフトウェア保守	software maintenance
		電子署名	digital signature	キャリブレーション	calibration
		ISO 26262	ISO 26262	動的テスト手法	dynamic testing
		セキュリティ要求分析	security requirements analysis	静的テスト手法	static testing
		XML	XML	アジャイル開発手法	agile development
		DDS	DDS	ソフトウェア品質手法	software quality
		SOME/IP	SOME/IP	人間中心設計	human-centered design
		AUTOSAR	AUTOSAR	オブジェクト指向設計	object-oriented design
		AGL（Automotive Grade Linux）	AGL（Automotive Grade Linux）	モデルベース設計（MBD）	model-based design (MBD)
		ROS（Robot Operating System）	ROS（Robot Operating System）	コンテナ技術	container
		UML	UML	リアルタイム性保証技術	real-time assurance
		SysML	SysML	ソフトウェア設計技術	software design
		ソフトウェアプロダクトライン開発	software product line development	OTA技術	OTA technology
		サービス指向アーキテクチャ（SOA）	service-oriented architecture (SOA)	要求分析技術	requirements analysis
		MISRA-C	MISRA-C	アーキテクチャ設計技術	Architecture Design Techniques
		コードレビュー	code review	分散コンピューティング技術	distributed computing
		リファクタリング	refactoring	仮想化技術	virtualization
		Automotive SPICE	Automotive SPICE	ハードウェア診断技術	hardware diagnostic
		セーフティケース	safety case	ソフトウェア自己診断技術	software self-diagnostic
		レートモノトニックアナリシス	rate monotonic analysis		
(F1)	**⑯社会システム** **social system**	省エネ運転	energy-saving driving	交通環境	traffic environment
		電気社会システム	electricity-based society systems	交通工学	traffic engineering
		スマートシティ	smart city	交通流	traffic stream
		交通流制御	traffic stream control	安全教育	safety education
		エネルギーインフラ	energy infrastructure	道路	road
		道路インフラ	road infrastructure		
		カー/ライドシェア	car/ride sharing		
(F2)	**⑰法規・技術者倫理等** **reguration/engineering ethics**	規格/規制	standard/regulation		
		法規/認証	regulation/certification		
		エシカルエンジニアリング（倫理）	ethical engineering		
		知財	intellectual property		
		政策提案	policy proposal		
		技術者教育/育成	engineering education/training		
		人材管理	human resources management		
		人材育成	human resources development		
		組織管理	organization management		
		プロジェクト管理	project management		
		開発プロセス管理	development process management		
		課題トラッキングシステム	issue tracking system		
		トレーサビリティ管理	traceability management		
		要件管理	requirements management		
		構成管理・バージョン管理	configuration and version management		
		知識/スキル体系	knowledge/skill framework		
		自動車技術史	history of automotive technology		
(F3)	**⑱その他のモビリティ** **other means of mobility**	航空機	airplane		
		アビオニクス	avionics		
		海洋/船舶	marine/shipping		
		航空宇宙	aerospace		
		鉄道	rail		
		パーソナルモビリティ	personal mobility		

#	略語	英語フルスペル	日本語
1	ABS	Antilock Brake System	アンチロックブレーキシステム
2	ACC	Adaptive Cruise Control	車間距離制御システム
3	AMT	Automated Manual Transmission	自動化マニュアルトランスミッション
4	AWD	All Wheel Drive	全輪駆動（4輪駆動）
5	BDF	Bio Diesel Fuel	バイオディーゼルフューエル
6	BOM	Bills of Materials	部品表
7	CAD	Computer Aided Design	コンピュータ支援設計
8	CAE	Computer Aided Engineering	コンピュータ支援技術
9	CAM	Computer Aided Manufacturing	コンピュータ支援加工
10	CAN	Controller Area Network	コントローラエリアネットワーク
11	CAT	Computer Aided Testing	コンピュータ支援検査
12	CFD	Computational Fluid Dynamics	数値流体力学
13	CRS	Child Restraint System	幼児拘束装置
14	CVT	Continuously Variable Transmission	無段変速機
15	DCT	Dual Clutch Transmission	デュアルクラッチトランスミッション
16	DME	Dimethyl Ether	ジメチルエーテル
17	ECU	Electronic Control Unit	エンジン制御コンピュータ
18	EDR	Event Data Recorder	イベントレコーダ
19	EMC	Electromagnetic Compatibility	電磁妨害感受性
20	EMI	Electromagnetic Interference	電波障害
21	EMS	Electromagnetic Susceptibility	電磁的免疫性
22	EV	Electric Vehicle	電気自動車
23	FT	Fischer Tropsch	フィッシャートロプシュ
24	HD	High Definition	ハイデフィニション
25	HEV	Hybrid Electric Vehicle	ハイブリッドカー
26	HILS	Hardware In the Loop Simulation	HILシミュレーション
27	HMI	Human Machine Interface	ヒューマンマシンインタフェース
28	ISS	Injury Severity Score	傷害度スコア
29	IT	Information Technology	情報技術
30	ITS	Intelligent Transport System	高度道路交通システム
31	LCA	Life Cycle Assessment	ライフサイクルアセスメント
32	LED	Light Emitting Diode	発光ダイオード
33	LIN	Local Interconnect Network	ローカルインタコネクトネットワーク
34	LSI	Large Scale Integration Circuit	大規模集積回路
35	MEMS	Micro Electro Mechanical Systems	メムス
36	MES	Manufacturing Execution System	製造実行システム
37	OBD	On Board Diagnosis	車載診断
38	PCU	Power Control Unit	パワーコントロールユニット
39	PDM	Product Data Management	製品情報管理
40	PLC	Power Line Communications	電力線搬送通信
41	PLM	Product Lifecycle Management	製品ライフサイクル管理
42	PND	Portable Navigation Device	可搬型ナビゲーション装置
43	SCR	Selective Catalytic Reduction	選択触媒還元
44	SMC	Sheet Molding Compound	シートモールディングコンパウンド
45	SOC	State Of Charge	充電レベル
46	UWB	Ultra Wide Band Radar	超広帯域無線
47	V2G	Vehicle to Grid	ビークルトゥグリッド
48	VOC	Volatile Organic Compounds	揮発性有機化合物