

# KIET Manufacturing Business Survey Index (BSI) for the 4th Quarter 2020

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## 1. Overview

The overall composite Business Survey Index for the manufacturing sector in Q4 2020 remained under the baseline (100). However, all feeder indices have slightly increased compared to the previous quarter. Specifically, sales (96), domestic demand (96), and ordinary profit (92) showed double-digit increases in Q4 2020. BSI forecasts for the 1st quarter of 2021

indicate that manufacturers anticipate an unfavorable business environment. Most indices for the manufacturing sector are forecast to be below the baseline; however, all feeder indices excepting inventory (99) are expected to improve performance compared to the previous quarter. On a year-on-year basis, the overall BSI outlook for business conditions does look very promising, excepting only ordinary profit (99).

**Table 1. Business Survey Indices for the Manufacturing Sector**

	2020				2021	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Business conditions	71 (86)	69 (84)	84 (84)	92 (88)	(92)	(99)
Sales	70 (86)	68 (88)	84 (85)	96 (89)	(94)	(103)
Domestic demand	71 (86)	69 (88)	85 (84)	96 (88)	(94)	(103)
Exports	75 (94)	69 (87)	91 (84)	94 (92)	(97)	(108)
Ordinary profit	74 (87)	70 (87)	82 (83)	92 (88)	(92)	(99)
Facilities investment	97 (100)	95 (97)	99 (96)	100 (97)	(99)	(102)
Operation ratio of facilities	80 (92)	76 (93)	91 (90)	97 (91)	(96)	(103)
Inventory	100 (100)	103 (100)	100 (100)	101 (99)	(99)	(100)
Employment	96 (98)	91 (97)	97 (96)	98 (97)	(101)	(104)
Financial condition	74 (85)	74 (83)	83 (83)	89 (86)	(90)	(95)

Note : 1) Figures in ( ) represent outlooks.

## 2. Sales BSI and Outlook by Industry

In Q4 2020, sales indices in most industries improved compared to the previous quarter, though many groups posted sub-baseline performances except for wireless communication products (111), electronic products (101) and refined petroleum products (117). Sectors ex-

hibiting particularly strong improvement included semiconductors (99), wireless communication products (111), electronic products (101), ship buildings (79), general machinery (93), refined petroleum products (117), steel (96), bio/health care (96), secondary batteries (99), though performance in the display (90) and textile (68) industries was poor, as the fig-

**Table 2. Sales BSI by Industry**

	2020				2021	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Overall	70 (86)	68 (88)	84 (85)	96 (89)	(94)	(103)
Semiconductors	74 (89)	82 (93)	88 (97)	99 (83)	(100)	(113)
Automobiles	58 (90)	37 (79)	91 (68)	93 (98)	(93)	(98)
Shipbuilding	76 (89)	76 (81)	62 (75)	79 (80)	(82)	(83)
General machinery	70 (88)	67 (85)	73 (86)	93 (85)	(90)	(96)
Steel	66 (83)	58 (85)	73 (57)	96 (80)	(88)	(95)
Chemicals	81 (93)	70 (96)	90 (75)	94 (97)	(95)	(107)
Textiles	50 (80)	55 (65)	73 (83)	68 (87)	(66)	(74)
Displays	78 (75)	72 (99)	94 (97)	90 (91)	(97)	(97)
Electronic products	58 (83)	68 (87)	84 (84)	101 (98)	(88)	(95)
Wireless communication products	68 (80)	95 (93)	95 (111)	111 (99)	(88)	(111)
Refined petroleum products	67 (82)	68 (86)	80 (100)	117 (80)	(101)	(122)
Bio/Health care	68 (107)	91 (82)	81 (94)	96 (90)	(101)	(110)
Secondary batteries	78 (96)	60 (89)	83 (100)	99 (89)	(97)	(114)
ICT	67 (83)	80 (92)	89 (97)	98 (87)	(97)	(108)
Material industry	65 (85)	65 (81)	82 (78)	96 (88)	(91)	(103)
Machinery industry	67 (89)	54 (82)	81 (76)	92 (90)	(90)	(95)
New industries	70 (105)	83 (84)	82 (95)	97 (90)	(100)	(111)
Large companies	74 (97)	74 (90)	88 (92)	105 (95)	(99)	(99)
Small and medium-sized enterprises (SMEs)	66 (87)	64 (83)	80 (81)	90 (89)	(88)	(88)

Note: 1) Figures in ( ) represent projections.

ures demonstrate. Similarly, the sales outlook for the next quarter predicts all groups will post sub-baseline figures, excepting semiconductors (100), refined petroleum products (101) and bio/health care (101). In particular, the wireless communication products, electronic products, automobiles, chemicals and textiles industries are not expected to emerge from their slumps, while on the positive side, the semiconductor, refined petroleum products, bio/health care industries are all expected to record increases from the previous quarter. On a year-on-year basis, overall sales indices were optimistic, but positive performances are concentrated in a handful of industries, particularly semiconductors (113), bio/health care (110), secondary batteries (114), wireless communication products (111), chemicals (107), and refined petroleum products (122).

### 3. Exports BSI and Outlook by Industry

The overall export indices for the 4th quarter were below the baseline (100), much as they were in the quarter previous. The refined petroleum products (109), wireless communication products (111), steel (102), bio/health care (104) and secondary battery (103) industries recorded the biggest increases, while displays (74) and textiles (75) lagged among all groups. The outlook for the 1st quarter of 2021 also suggests decent economic sentiment, as several industries are forecasted to post above-baseline performances. However, the textiles (69) indus-

try continues to slump, and some industries, including displays, electronic products, automobiles and chemicals, expect poor performance compared to the previous quarter. Yet, forecasts for semiconductors (124), general machinery (101), steel (108), automobiles (103), chemicals (107), refined petroleum products (109), electronic products (104), wireless communication products (114), bio/health care (119), secondary battery (115), ICT (114) and new industries (118) are optimistic on year-on-year basis, even as the prospects for the display, textile, and shipbuilding industries are gloomy.

### 4. Industrial Weather Chart for the 4th Quarter 2020

Overall, indices gauging sales, domestic demand, exports and ordinary profits in the manufacturing sector stayed under the baseline in Q4 2020, excepting facilities investment. Specifically, the BSI for most manufacturing activities remained lower than 100 (the baseline). However, the overall business and economic performance in the semiconductors, wireless communication products, electronic products, refined petroleum products, bio/health care, secondary batteries, and ICT sectors and among new industries and large companies sectors was positive. But the displays shipbuilding and textiles industries and SMEs in general showed relatively poor economic performance among all component industries of current manufacturing activity in this quarter.

**Table 3. Exports BSI by Industry**

	2020				2021	
	1/4	2/4	3/4	4/4	1/4	year-on-year
Overall	75 (94)	69 (87)	91 (84)	94 (92)	(97)	(108)
Semiconductors	83 (104)	91 (91)	101 (100)	97 (93)	(105)	(124)
Automobiles	65 (94)	34 (77)	92 (63)	89 (99)	(96)	(103)
Shipbuilding	84 (99)	83 (89)	79 (85)	83 (79)	(83)	(92)
General machinery	73 (93)	62 (84)	74 (80)	91 (83)	(94)	(101)
Steel	74 (88)	52 (80)	71 (48)	102 (75)	(94)	(108)
Chemicals	85 (100)	70 (95)	97 (71)	95 (96)	(95)	(107)
Textiles	55 (86)	40 (65)	84 (81)	75 (85)	(69)	(83)
Displays	71 (69)	81 (96)	97 (98)	74 (95)	(88)	(86)
Electronic products	59 (95)	60 (84)	93 (95)	101 (104)	(99)	(104)
Wireless communication products	75 (89)	77 (86)	86 (119)	111 (93)	(98)	(114)
Refined petroleum products	76 (92)	78 (91)	90 (100)	109 (92)	(106)	(109)
Bio/Health care	77 (109)	82 (93)	84 (89)	104 (92)	(108)	(119)
Secondary batteries	75 (102)	70 (86)	90 (93)	103 (87)	(100)	(115)
ICT	70 (92)	86 (88)	99 (100)	94 (95)	(101)	(114)
Material industry	71 (92)	64 (80)	88 (74)	97 (89)	(94)	(104)
Machinery industry	72 (94)	51 (82)	83 (72)	89 (90)	(94)	(101)
New industries	76 (108)	79 (91)	85 (90)	103 (91)	(106)	(118)
Large companies	77 (97)	67 (90)	94 (88)	102 (93)	(103)	(103)
Small and medium-sized enterprises (SMEs)	71 (94)	61 (83)	85 (78)	91 (89)	(92)	(92)

Note: 1) Figures in ( ) represent projections.

## 5. Industrial Weather Forecast for the 1st Quarter 2021

Overall BSI prospects in Q1 2021 do not offer very promising economic performance given the business climate chart of major index components. The textiles industry in particular is projected

to continue its downward spiral, posting lows in sales (66), domestic demand (69), exports (69) and ordinary profit (68). Survey respondents were also pessimistic about the displays, electronic products, automobiles, general machinery, shipbuilding, and steel industries, which are expected to record poor figures in sales, domestic demand,

**Table 4. Major Index Components of Current Manufacturing Activity**

	Sales	Domestic Demand	Exports	Ordinary Profit	Facilities Investment	Employment
Overall	96 ☁	96 ☁	94 ☁	92 ☁	100 ☀☁	98 ☁
Semiconductors	99 ☁	101 ☀☁	97 ☁	101 ☀☁	107 ☀☁	101 ☀☁
Displays	90 ☁	96 ☁	74 ☁	83 ☁	97 ☁	106 ☀☁
Wireless communication products	111 ☀☁	107 ☀☁	111 ☀☁	98 ☁	102 ☀☁	102 ☀☁
Electronic products	101 ☀☁	101 ☀☁	101 ☀☁	92 ☁	99 ☁	98 ☁
Automobiles	93 ☁	94 ☁	89 ☁	89 ☁	97 ☁	98 ☁
Shipbuilding	79 ☁	83 ☁	83 ☁	81 ☁	93 ☁	92 ☁
General machinery	93 ☁	94 ☁	91 ☁	89 ☁	95 ☁	98 ☁
Refined petroleum products	117 ☀☁	114 ☀☁	109 ☀☁	100 ☀☁	103 ☀☁	97 ☁
Chemicals	94 ☁	91 ☁	95 ☁	91 ☁	99 ☁	96 ☁
Steel	96 ☁	95 ☁	102 ☀☁	91 ☁	91 ☁	91 ☁
Textiles	68 ☁	66 ☁	75 ☁	64 ☁	94 ☁	84 ☁
Bio/Health care	96 ☁	93 ☁	104 ☀☁	93 ☁	102 ☀☁	102 ☀☁
Secondary batteries	99 ☁	94 ☁	103 ☀☁	92 ☁	104 ☀☁	97 ☁
ICT	98 ☁	100 ☀☁	94 ☁	97 ☁	104 ☀☁	102 ☀☁
Machinery industry	92 ☁	93 ☁	89 ☁	88 ☁	96 ☁	98 ☁
Material industry	96 ☁	94 ☁	97 ☁	89 ☁	98 ☁	94 ☁
New industries	97 ☁	94 ☁	103 ☀☁	93 ☁	103 ☀☁	101 ☀☁
Large companies	105 ☀☁	101 ☀☁	102 ☀☁	99 ☁	100 ☀☁	102 ☀☁
Small and medium-sized enterprises (SMEs)	90 ☁	90 ☁	91 ☁	86 ☁	97 ☁	96 ☁

Note: ☀ 115 above, ☀☁ 100~115, ☁ 85~100, ☁ 85 below.

and ordinary profit. On the other hand, there appears to be some optimism in the semiconductors, refined petroleum products, bio/health care

and secondary battery industries, and the outlook for the ICT and new industries are relatively favorable compared to other industries and sectors.

**Table 5. Major Index Components of the Manufacturing Outlook**

	Sales	Domestic Demand	Exports	Ordinary Profit	Facilities Investment	Employment
Overall	94 ☁	94 ☁	97 ☁	92 ☁	99 ☁	101 ☀
Semiconductors	100 ☀	101 ☀	105 ☀	100 ☀	101 ☀	105 ☀
Displays	97 ☁	98 ☁	88 ☁	88 ☁	95 ☁	101 ☀
Wireless communication products	88 ☁	90 ☁	98 ☁	89 ☁	102 ☀	106 ☀
Electronic products	88 ☁	89 ☁	99 ☁	92 ☁	98 ☁	94 ☁
Automobiles	93 ☁	90 ☁	96 ☁	93 ☁	99 ☁	101 ☀
Shipbuilding	82 ☁	84 ☁	83 ☁	82 ☁	96 ☁	94 ☁
General machinery	90 ☁	90 ☁	94 ☁	86 ☁	92 ☁	98 ☁
Refined petroleum products	101 ☀	100 ☀	106 ☀	96 ☁	107 ☀	106 ☀
Chemicals	95 ☁	96 ☁	95 ☁	93 ☁	104 ☀	100 ☀
Steel	88 ☁	88 ☁	94 ☁	85 ☁	93 ☁	95 ☁
Textiles	66 ☁	69 ☁	69 ☁	68 ☁	93 ☁	87 ☁
Bio/Health care	101 ☀	99 ☁	108 ☀	100 ☀	103 ☀	104 ☀
Secondary batteries	97 ☁	99 ☁	100 ☀	92 ☁	106 ☀	100 ☀
ICT	97 ☁	99 ☁	101 ☀	96 ☁	100 ☀	103 ☀
Machinery industry	90 ☁	90 ☁	94 ☁	89 ☁	96 ☁	99 ☁
Material industry	91 ☁	91 ☁	94 ☁	89 ☁	101 ☀	99 ☁
New industries	100 ☀	99 ☁	106 ☀	98 ☁	104 ☀	103 ☀
Large companies	99 ☁	98 ☁	103 ☀	98 ☁	98 ☁	104 ☀
Small and medium-sized enterprises (SMEs)	88 ☁	88 ☁	92 ☁	87 ☁	97 ☁	97 ☁

Note: ☀ 115 above, ☁ 100~115, ☁ 85~100, ☁ 85 below.

< Appendix >

**Outline of KIET Quarterly Manufacturing Business Survey Index**

- BSI figures were compiled through surveys completed by representatives at 1009 domestic manufacturing firms, with 90.1 percent of the respondents who complied with the survey identifying as a small or medium-sized enterprise. The survey was conducted from December 10 to 30, 2020.
- The questionnaire issued comprises 10 sections on business conditions, sales, domestic demand, exports, ordinary profit, facilities investment, the operation ratio of facilities, inventory, employment, and financial conditions. This survey is intended to assess quarterly performance and grasp the economic climate of the upcoming quarter.