

# New customer's development and increasing the sale of product

My country economy at this season keeps escaping from Odoba of business though holds a crude oil high so on unstable element that continues still, and recovering gradually and well.

In the IT industry, there is an influence such as competing intensification in narrowing investment field.

## [The main product and service at this season]

### ◆ From the product headquarters

In the image business, the new model turning on of the A3 high-speed, two sided color scanner that achieved a high-speed reading aimed at. wroom was established in United States, Europe, and Asia/Oceania.

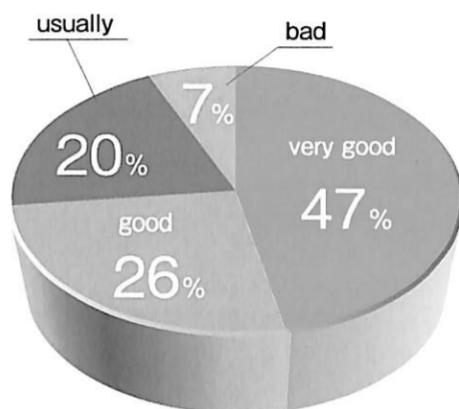
### ◆ Image business

#### 1) Scanner class

A3 high-speed, two sided color scanner "fi-5900C" that 100 high-n function to enable industry-leading was installed was announced in ScanSnap gotten popular because of an office and individual use.

#### 2) DLM solution scanner

The DLM solution that used received the rise of the concern to efficient management and internal management of the corporate private circumstances report in recent years and attracted attention. The function of software that the inspection of data is possible by the sense that turns over the file is strengthened, and easiness to use has been improved.



Satisfaction rating to new product

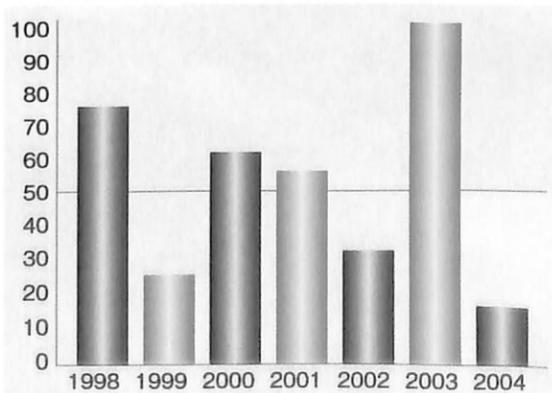
## [approach on business risk]

### ◆ In-house activity

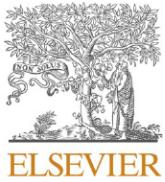
The attestation intended for each office in Shinbashi, Kansai, and Tokai was acquired in environment ISO in February, 2006. In addition, it participates in the minus 6% that is a national movement of the global warming prevention, and "Culbiz" is done. The scandal of the enterprise has frequently generated is received, concern is sent to the system maintenance including the observance of the law in recent years.

### ◆ Enhancement of system of management

The committee that aimed at the decrease of a variety of business risks in an individual business talk was newly established. Moreover, the recognition of "Privacy mark" is received to manage customer and employee's individual information appropriately in 2001, and the activity based on the protection of individual information policy is continued. It is ..bAsia/Oceania in globalln addition, our technology, commodity power, and correspondence power were evaluating acquired.



Satisfaction rating to new product



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# Augmented reality training for improved learnability

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### ARTICLE INFO

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### ABSTRACT

In the current era of Industry 4.0, many new technologies offer manufacturing industries to achieve high productivity. Augmented Reality (AR) is one of the emerging technologies that has been adopted in industries to aid users in acquiring complex skills and carrying out many complicated tasks such product assembly and maintenance. Nevertheless, most AR applications have been developed without clear understanding of how such technology can facilitate improved learnability in terms of knowledge reusability. This paper proposed an enhanced AR-based training system that provides multimodal information with a contextualized information to improve task comprehension and knowledge reusability compared with traditional AR that presents unimodal and decontextualized information. An empirical test was carried out to assess the task performance and the task learnability aspects of this enhanced AR compared to the traditional AR and the paper-based document. The experiment consisted of a training phase where participants carried out an electrical connection task of a sensor followed by a knowledge reuse phase where participants had to wire a second sensor using their previous training. A pre-test quiz was given before the experiment followed by the post-tests phase after the training. Post-tests consist of one post-test given directly after the experiment (short-term retention test) and a second post-test quiz given one week later (long-term retention test) to measure information retention. The results indicated that AR-based approaches could enhance knowledge acquisition by around 18 % for traditional AR and almost 25 % for enhanced AR as compared to paper-based approach. While all training systems achieved relatively equivalent well for short-term retention test, trainees who used the enhanced AR training systems statistically outperformed those in the paper-based group for long term retention test. Furthermore, there was a positive correlation between the score of short-term retention test and the score in the knowledge reusability which was also shown by the higher scores in knowledge reusability for the enhanced AR training system compared to the other two approaches. These findings are discussed in relation to the Industry 5.0's human centric core value.

### 1. Introduction

The adoption of Industry 4.0 technologies enables new capabilities to produce and to deliver product faster with a better quality, and more cost efficient. However, this industrial revolution is leading to an increased complexity of manufacturing systems and an increasingly rapid renewal of these systems. Consequently, upskilling employees' competencies to handle and maintain the complex engineering assets (CEAs) is indispensable. In recent years, finding a skilled worker has become a difficult task. The reason is that there is a talent shortage nowadays. Indeed, in 2018, 45 % of employers said that they could not find the necessary skills among candidates [17]. Furthermore, a new issue will arise from adapting to the changing job dynamics brought

about by digitalization [27]. Despite the increased interconnectedness and availability of information globally, the progress of digitalization has not been uniformed across countries or even within industries within the same country [14]. To face this challenge and meet with the adoption of Industry 4.0, employers need to find a new way to ensure their workforces are sufficiently equipped to work with CEAs. In the aviation sector, research examined that traditional training such as in-class training and paper-based manual are not reliable means for teaching job tasks and the skills for visual inspection for the future trend in aviation [11,29]. Visual inspection requires Aircraft Maintenance Technician (AMT) to identify certain characteristics of all types of faults and make decision to troubleshoot various systems from one airplane to another. Due to highly complexity and interrelated components in the

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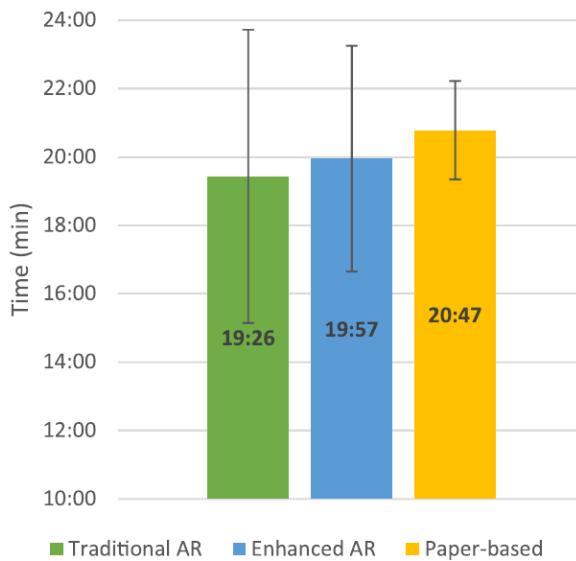


Fig. 4. Mean Task Completion Time.

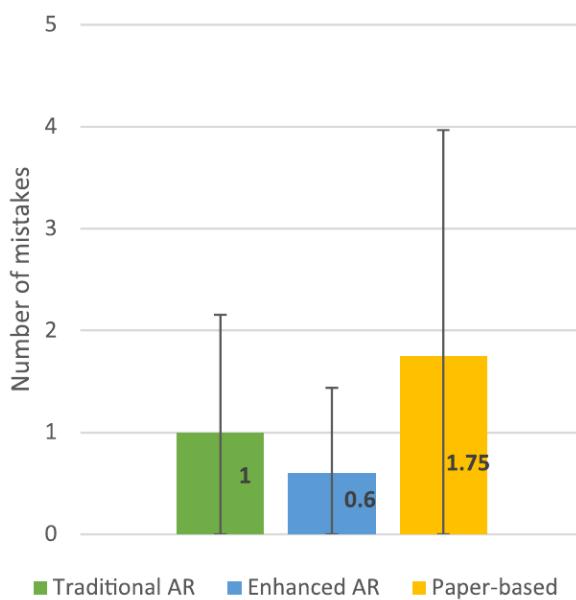


Fig. 5. Mean number of mistakes.

among groups ( $F(2,10) = 1.335, p = 0.306$ ).

#### 4.8. Knowledge retention and reusability correlation

The associations between knowledge retention and knowledge reusability along as well as between short- and long-term retention were shown on the Table 6. Point-Biserial Correlation determined that

**Table 6**  
Knowledge retention scores relative to the baseline.

	Traditional AR group (4 People)	Enhanced AR group (5 People)	Paper-based group (4 People)
ST	* *61.37 %	* *67.27 %	* 43.18 %
LT	* 54.54 %	* 74.54 %	* 40.91 %
LT - ST	-6.83 %	7.27 %	-2.27 %
ST (short-term), LT (long-term)			

\* $p < 0.05$

\* $p < 0.01$

knowledge reusability had a statistically significant positive correlation with short-term retention score ( $rpb = 0.672, n = 13, p = 0.012$ ), but not for long-term retention scores ( $rpb = 0.466, n = 13, p = 0.108$ ). However, when knowledge retention between short- and long-term was analyzed, Pearson's correlation showed that there was a positive correlation between both, which was statistically significant ( $rp = 0.717, n = 13, p = 0.006$ ). Fig. 6 illustrates the comparison for the success rate of wiring a second sensor by comparing the traditional AR, Enhanced AR and Paper based approaches, achieving 50%, 80% and 25% respectively..

#### 5. Discussion

Many applications have shown that AR technology can improve learnability when acquiring new skills or concepts over traditional training in terms of knowledge comprehension rate and knowledge retention. The superiority of AR lies in its capability to overlay interactive and animated information in a timely manner. This helps to increase user's motivation to engage with the content which is essential to encourage learning. Besides, allowing users to see the necessary information at a favorable time results in a more efficient use of cognitive resources and in turn accommodates more learning. Nevertheless, the current paradigm in using AR for training seems to focus on a limited aspect of productivity such as task performance and knowledge retention enablement. In the light of Industry 5.0 which emphasizes on human centric, sustainability, and resilience, technology is expected to be developed in ways that serve human needs for upskilling or reskilling, with efficient use of resources, and better equip human to deal with uncertainties [15,31]. In attempt to expand the knowledge in this area, this study sought to base the development of AR system for training on human centric principles to facilitate meaningful learning and achieve improved learnability in terms of retention test and transfer test (see. Table 7).

The results in the retention test showed that all users demonstrated statistically significant understanding in the given task regardless of which training system (see Table 5). However, users in the AR groups were able to get an overall higher number of correct answers (18% for the traditional and ~25 % for the enhanced) than paper-based manual despite completion time and number of mistakes committed were similar across groups. Although the differences were not significant in the short-term test, the higher scores observed in AR groups could be due to more extraneous processing occurred in the paper-based manual group whereas more essential processing occurred in the AR groups. Essential processing involves intrinsic load or essential material/

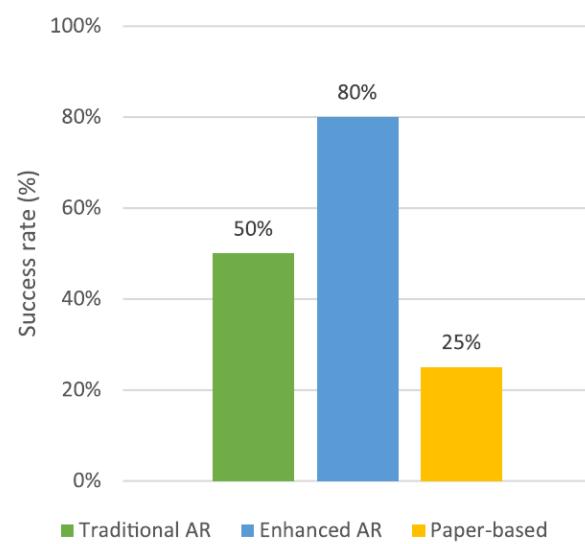


Fig. 6. Success rate of wiring a second sensor.



Fig. 1. System architecture of AR system.

Further, the task was tested under three different learning interfaces: (1) a paper-based document that serves as a control group against AR systems, (2) a traditional AR-based training system, and (3) an enhanced AR-based training system that was developed by applying design principles that encourage meaningful learning.

**3.3.1.1. The paper-based document.** The paper-based document (see: 10.17862/cranfield.rd.24079371) contains all information about the electronic system and its components. It also consists of a step-by-step information in the form of textual instruction and pictures to complete a wiring task.

**3.3.1.2. The traditional AR-based training system.** This training system replicated most of AR systems used for learning the assembly tasks which include textual information, graphical objects (e.g. arrow) for pointing certain objects, and videos. Users were initially presented with an overview of the electronic system and its all components using tooltips and graphical arrows (See Fig. 2(a)). To acquire skills in wiring the system, assembly instructions were presented step by step on top of the workspace in the form of texts as well as videos which describe the task and how to do it (See Fig. 2(b)). The users can pause and play the video as much as they like and proceed to the next step.

**3.3.1.3. The enhanced AR-based training system.** The enhanced AR-based training system was similar to the traditional one regarding the contents. However, it had voice cues (multimodal information) that gives additional context and information to the user. For example, during the unscrewing part of the power supply, the voice cue gives additional information on how to perform the task: "To loosen the screws, do two or three counterclockwise turns with the screwdriver on both screws". It also included common mistakes and consequences panel after each step to enable the user to grasp the significance of their

actions and increase the understanding of the system behavior (projection of the given states and their consequences) as shown in Fig. 3.

### 3.3.2. Experimental procedure

To examine how different methods of learning affect users in understanding the task and reusing the acquired knowledge to a different situation, this study assessed independent groups of users (between-subjects test) who were assigned to each learning method to learn the same task. Each participant was asked to fill out a demographic questionnaire (see: 10.17862/cranfield.rd.24079371) which includes electronical and augmented reality background questionnaire to check whether they had done some tasks related electronics system and if they were familiar with the use of AR prior to the experiment. After that, each participant was given a questionnaire with questions related to the studied wiring task to test their initial knowledge about the system.

The test consisted of questions about the identification of different components they would use during the task and about general knowledge given during the experiment. Following this, a total of thirteen participants were involved in this experiment where four people were assigned in traditional AR group, five people in the enhanced AR group, and four people in the paper-based document group. They were all students (Male = 6, Female = 7) and aged between 25 and 35 years old. Their knowledge about electronics was balanced across the groups (See Section 4.1). The test was graded over 11 questions and was also given after they finished the task to measure the amount of information they learned after going through a training (short term retention test). One week later, each participant was assessed again with the same questionnaire to test their capability to remember what they learned (long term retention test). The duration of a week has been used in many studies for memory retention test [16,26]. Furthermore, participants were not told that the questionnaire would be the same after one week. Existing studies that measured task learnability typically focused on

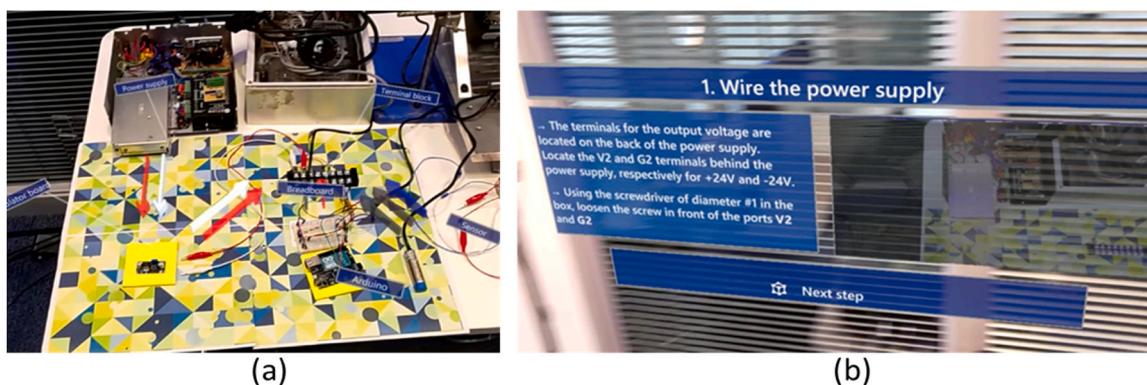


Fig. 2. Traditional AR-based training system: (a) the overview of the electronic wiring system, (b) assembly instructions in the textual form and video.



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**PT UNITED TRACTORS Tbk DAN ENTITAS ANAK**

**PERNYATAAN DIREKSI  
TENTANG TANGGUNG JAWAB TERHADAP  
LAPORAN KEUANGAN  
KONSOLIDASIAN INTERIM  
PT UNITED TRACTORS Tbk  
DAN ENTITAS ANAK ("GRUP")  
TANGGAL 31 MARET 2024 DAN 31 DESEMBER 2023  
serta periode-periode tiga bulan  
yang berakhir 31 Maret 2024 dan 2023**

Kami yang bertanda tangan di bawah ini:

1. Nama : FXL Kesuma  
Alamat kantor : Jl. Raya Bekasi Km 22  
Cakung, Jakarta 13910  
Alamat rumah : Jl. Wijaya Kusuma 49  
Cilandak  
Jakarta Selatan  
No. Telepon : 021 – 24579999  
Jabatan : Presiden Direktur
2. Nama : Vilihati Surya  
Alamat kantor : Jl. Raya Bekasi Km 22  
Cakung, Jakarta 13910  
Alamat rumah : Jl. Janur Eloq VII QF-7/11A  
Kelapa Gading  
Jakarta Utara  
No. Telepon : 021 – 24579999  
Jabatan : Direktur

menyatakan bahwa:

1. Kami bertanggung jawab atas penyusunan dan penyajian laporan keuangan konsolidasian interim Grup;
2. Laporan keuangan konsolidasian interim Grup telah disusun dan disajikan sesuai dengan Standar Akuntansi Keuangan di Indonesia;
3. a. Semua informasi dalam laporan keuangan konsolidasian interim Grup telah dimuat secara lengkap dan benar;  
b. Laporan keuangan konsolidasian interim Grup tidak mengandung informasi atau fakta material yang tidak benar, dan tidak menghilangkan informasi atau fakta material;
4. Kami bertanggung jawab atas sistem pengendalian internal dalam Grup.

Demikian pernyataan ini dibuat dengan sebenarnya.

**PT UNITED TRACTORS Tbk AND SUBSIDIARIES**

**BOARD OF DIRECTORS' STATEMENT  
REGARDING THE RESPONSIBILITY FOR  
THE INTERIM CONSOLIDATED  
FINANCIAL STATEMENTS  
OF PT UNITED TRACTORS Tbk  
AND SUBSIDIARIES (THE "GROUP")  
AS AT 31 MARCH 2024 AND 31 DECEMBER 2023  
AND FOR THE THREE-MONTH PERIODS  
ENDED 31 MARCH 2024 AND 2023**

We, the undersigned:

1. Name : FXL Kesuma  
Office address : Jl. Raya Bekasi Km 22  
Cakung, Jakarta 13910  
Residential address : Jl. Wijaya Kusuma 49  
Cilandak  
Jakarta Selatan  
Telephone No. : 021 – 24579999  
Title : President Director
2. Name : Vilihati Surya  
Office address : Jl. Raya Bekasi Km 22  
Cakung, Jakarta 13910  
Residential address : Jl. Janur Eloq VII QF-7/11A  
Kelapa Gading  
Jakarta Utara  
Telephone No. : 021 – 24579999  
Title : Director

declare that:

1. We are responsible for the preparation and presentation of the Group's interim consolidated financial statements;
2. The Group's interim consolidated financial statements have been prepared and presented in accordance with the Indonesian Financial Accounting Standards;
3. a. All information in the Group's interim consolidated financial statements has been disclosed in a complete and truthful manner;  
b. The Group's interim consolidated financial statements do not contain any incorrect information or material fact, nor do they omit information or material fact;
4. We are responsible for Group's internal control system.

Thus this statement is made truthfully.

Atas nama dan mewakili Direksi/For and on behalf of the Board of Directors

JAKARTA

29 April 2024

**FXL Kesuma**  
Presiden Direktur/President Director

**Vilihati Surya**  
Direktur/Director

**Moving as one**

**PT UNITED TRACTORS Tbk**  
**DAN ENTITAS ANAK/AND SUBSIDIARIES**

**Lampiran 1/1 Schedule**

**LAPORAN POSISI KEUANGAN  
KONSOLIDASIAN INTERIM  
31 MARET 2024 DAN 31 DESEMBER 2023**  
(Dinyatakan dalam jutaan Rupiah,  
kecuali dinyatakan lain)

**INTERIM CONSOLIDATED  
STATEMENTS OF FINANCIAL POSITION  
31 MARCH 2024 AND 31 DECEMBER 2023**  
(Expressed in millions of Rupiah,  
unless otherwise stated)

	<u>31/03/2024</u>	<u>Catatan/ Notes</u>	<u>31/12/2023</u>	
<b>Aset</b>				
<b>Aset lancar</b>				<b>Assets</b>
Kas dan setara kas	22,246,140	3	18,596,609	<b>Current assets</b>
Piutang usaha				<i>Cash and cash equivalents</i>
- Pihak ketiga	18,435,677	4	18,953,089	<i>Trade receivables</i>
- Pihak berelasi	981,633	4,35c	1,321,493	<i>Third parties -</i>
Piutang non-usaha				<i>Related parties -</i>
- Pihak ketiga	773,229	35c	833,144	<i>Non-trade receivables</i>
- Pihak berelasi	1,342,150	6	1,207,575	<i>Third parties -</i>
Persediaan	17,220,278		17,184,208	<i>Related parties -</i>
Proyek dalam pelaksanaan				<i>Inventories</i>
- Pihak ketiga	114,648		111,259	<i>Project under construction</i>
Pajak dibayar dimuka				<i>Third parties -</i>
- Pajak penghasilan badan	1,100,303	16a	910,334	<i>Prepaid taxes</i>
- Pajak lain-lain	1,589,010	16a	2,196,826	<i>Corporate income taxes -</i>
Uang muka dan biaya dibayar dimuka	1,247,514	7	1,103,109	<i>Other taxes -</i>
Aset lancar lain-lain	<u>256,470</u>		<u>249,459</u>	<i>Advances and prepayments</i>
	<u>65,307,052</u>		<u>62,667,105</u>	<i>Other current assets</i>
<b>Aset tidak lancar</b>				
Kas dan deposito berjangka yang dibatasi penggunaannya	621,233	3	561,219	<b>Non-current assets</b>
Piutang usaha				<i>Restricted cash and time deposits</i>
- Pihak ketiga	351,299	4	107,565	<i>Trade receivables</i>
- Pihak berelasi	15,841	4,35c	16,514	<i>Third parties -</i>
Piutang non-usaha				<i>Related parties -</i>
- Pihak ketiga	306,151	35c	311,702	<i>Non-trade receivables</i>
- Pihak berelasi	3,505,595	6	2,867,712	<i>Third parties -</i>
Persediaan	86,947		82,497	<i>Related parties -</i>
Pajak dibayar dimuka				<i>Inventories</i>
- Pajak penghasilan badan	23,164	16a	75,699	<i>Prepaid taxes</i>
- Pajak lain-lain	2,098,755	16a	1,731,673	<i>Corporate income tax -</i>
Uang muka dan biaya dibayar dimuka	389,139	7	1,298,672	<i>Other taxes -</i>
Investasi pada entitas asosiasi dan ventura bersama	17,551,248	8	14,853,244	<i>Advances and prepayments</i>
Investasi jangka panjang	1,268,213	8	1,243,018	<i>Investments in associates and joint ventures</i>
Aset tetap	37,512,715	9	36,001,559	<i>Long-term investments</i>
Properti pertambangan	17,698,024	10a	17,845,848	<i>Fixed assets</i>
Properti investasi	228,097	11	228,097	<i>Mining properties</i>
Beban eksplorasi dan pengembangan tangguhan	2,513,388	10b	2,374,321	<i>Deferred exploration and development expenditures</i>
Aset tambang berproduksi	4,496,914	10c	4,488,727	<i>Production mining assets</i>
Beban tangguhan	1,413,176		1,448,506	<i>Deferred charges</i>
Aset pajak tangguhan	3,697,201	16d	3,537,279	<i>Deferred tax assets</i>
Goodwill	<u>2,342,623</u>	<u>12</u>	<u>2,287,291</u>	<i>Goodwill</i>
	<u>96,119,723</u>		<u>91,361,143</u>	
<b>Jumlah aset</b>	<u>161,426,775</u>		<u>154,028,248</u>	<b>Total assets</b>

Catatan atas laporan keuangan konsolidasian merupakan bagian yang tidak terpisahkan dari laporan keuangan konsolidasian.

*The accompanying notes form an integral part of these consolidated financial statements.*