

# Improvement of Technology of Automation of Cement Packing Process At "Eco Sement" Enterprise.

**H. Asranov**

Andijan machin building institut  
"Automation of mechanical engineering production"  
department assistant *email:* [habib19920827@com](mailto:habib19920827@com)  
Andijan machin building institut  
of student Z. Residential title

**Annotation:** in "ECO CEMENT" enterprise cement packaging process automation technology new work analysis to do Smart packaging the device offer to do Cement packing process importance analytical and of the device work analysis to do

**Key words:** " ECO CEMENT", Smart packaging , ( PMTI) experts , scales dazator , packaging , sewing machine , bunker, product , radar level measure device . Matlab program , Simulink package .

Work release Process soda , medium and complicated from devices consists of is cement \_ work release process complicated process is considered Cement work release for one how many substances in moderation mixing very important \_ is counted . Ready the product storage him sell for again one processing Demand does \_ This is the process the product ie cement packaging counting this process very important technological process is considered That's why for work in release technological process this part maximum level automation need \_ With that together , products packaging of the line performance from packaging both before and after \_ to be increased all technological processes with directly depends \_ \_ This is the packaging process work release the product storage and distribution logistics with closely coordination Demand does [2-3].

in 2017-2022 in Uzbekistan cement work release volume is 69.3 percent increased Forecasting and macroeconomic studies Institute (PMTI) experts by 2016-2022 \_ in Uzbekistan cement industry development dynamics was studied . In 2023 in 5 regions of our country 8.6 million tons in 12 enterprises cement work issued construction industry development programs performance of provision main from the factors one it happened \_ To cement of demand high , the market development significant potential in our country comfortable entrepreneurship environment created encouraging \_ state policy cement to the field new investors attention drew [ 1].

Cement produced in packaging paper is small packages polypropylene from bags wide is being used . Polypropylene bags again workable packaging as packaging in the field modern requirements answer gives \_ packaging from the type right \_ use this marketing value of the product to increase take will come Europe , North America and in Australia packaging as paper is small bags basically if used , Latin America , Africa and in Asia capacity from 10 to 50 kg has been woven polymer and paper from packages is used . Such packaging present in the day to buyers familiar to be with one in line , climate conditions and market requirements come came out without from polypropylene prepared cheap weaving bags spread take will come There is little paper work release very energy Demand who does process that it was because , ecological point of view In terms of polypropylene from bags use is preferable [4].

packaging factories in setting first installed \_ technological of equipment elements : bunkers , weight and dosage of devices effect account get need \_ Many \_ in enterprises exactly that's it equipment packaging factories cement fertility restrictive factor is considered of the device characteristics and standard dimensions \_ right choose the product in coverage high weight accuracy and one diversity provide from the conditions is one Cement packaging fertility increase , of employees expenses reduce the product competitiveness , quality and work release size increase important importance occupation is doing

Weight from 10 to 50 kg has been into bags cement and that's it similar construction products packaging for automated packaging management system right the project make up of the specialist to the qualified depends will be In packaging a lot important factors account get need , for example , packaging product

quantity , loading elements , dosage systems , packaging type , packaging options , conveyor , storage warehouses and others \_

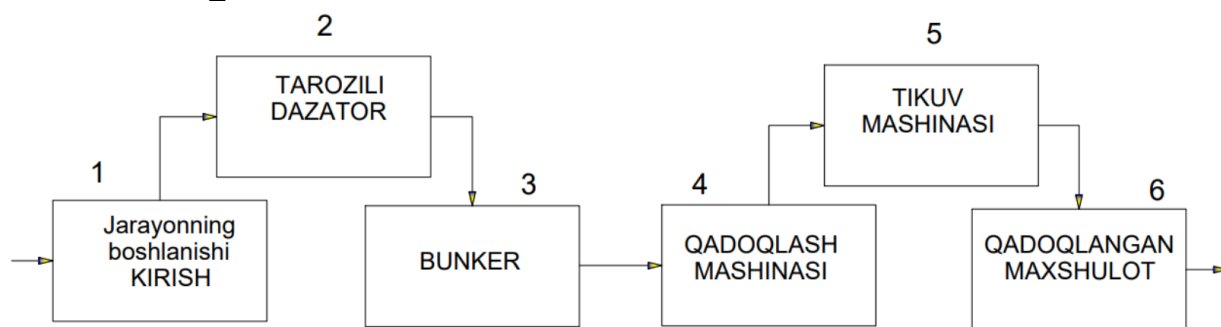


Figure 1. ECO cement work release in the process cement packing of technology structure scheme .

this scheme cement the product of packaging sequence shown . \_ On the 1st device of the process at the beginning Guest from inspections past \_ brands sure in the situation product smart packaging to the device will come Ready The product is the 2nd device scales to the table come weighed and transferred to the 3rd process in the case of  $50\text{ kg} \pm 0.5$  ie to the bunker is placed from the bunker ready in case standing product to the 4-packing machine is sent . Technological process very complicated \_ but work in terms of simple that it was with separate stands \_ Out of 4 line throughout to the movement from coming before seam using machine 54 bags over is sewn and to the line is sent . Neighbor continue like this is enough Smart packaging device the product enough in the closet come if it stands 10 tons per hour the product 200 kg of product per minute to cover opportunity have \_

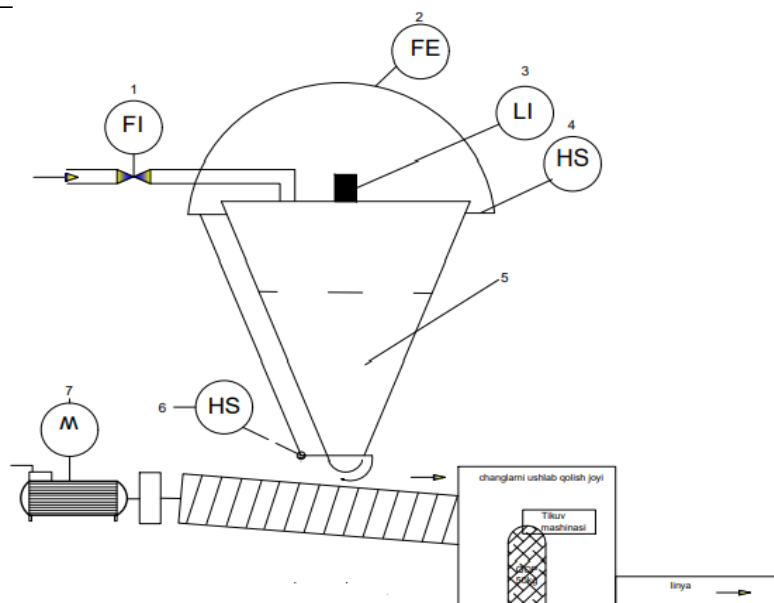


Figure 2. ECO cement work smart packaging at checkout of the device common functional scheme .

This process of the device work process very fast \_ with from others separate stands \_ This process is as follows 1 adjustment from the device from the valve came signal acceptance 3 levels made measure \_ device to work falls mass increased 4- way controller scales to account takes 2 \_ transmits theft increased more and more prigins pulled goes to 6 jobs falls of the bunker bottom part opening as a result the product to the line falls 7 meters to the movement leaving auger turns \_ Cement is pushed and packaging for to the bag is placed covered the product line across \_ to the movement will come In this ryer again one to something separately attention directed be \_ packaging on time dust and another holding substances as well to stay to the box have \_ This is the process don't go go away continue says \_ And this work release for cheap and good quality is counted

Being studied process for Matlab in Simulink Created scheme as follows will be

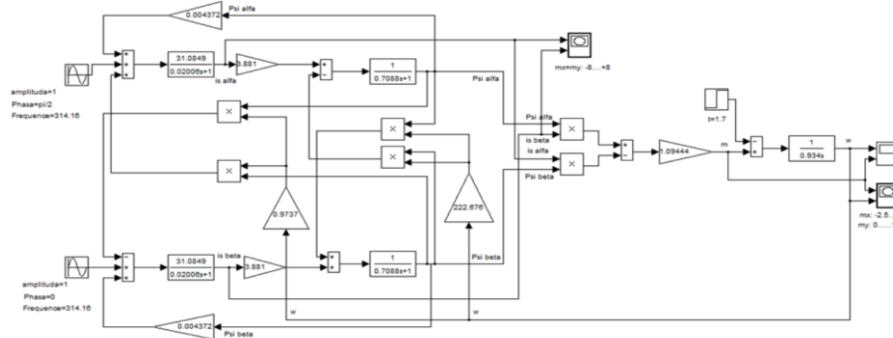


Figure 3. MATLAB program simulink in the package the process check scheme .

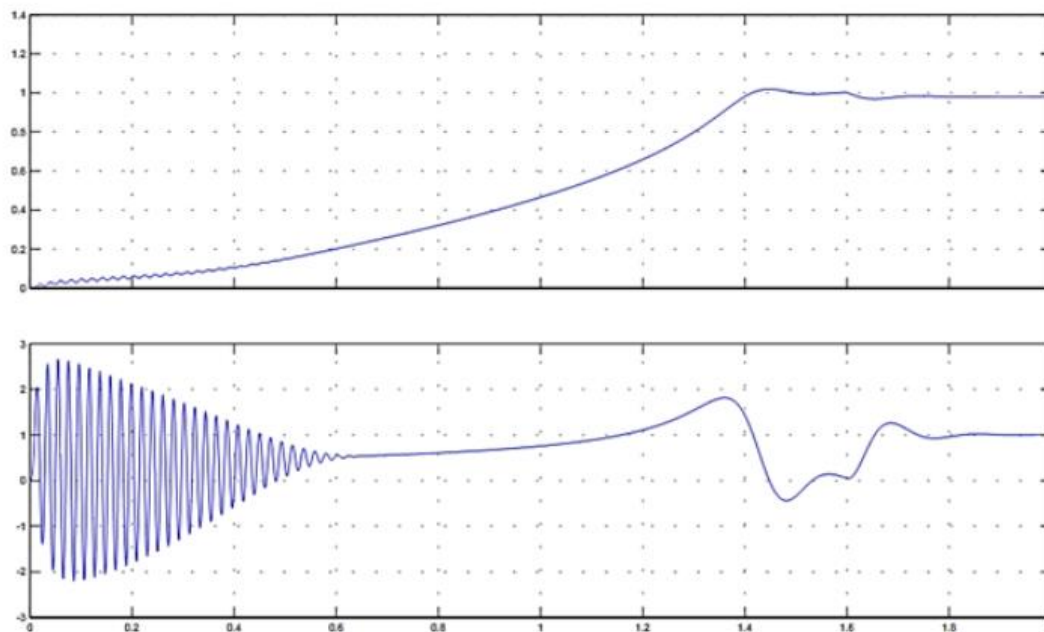


Figure 4. System for received the result

packaging process complete \_ analysis done the most efficient work technology work to issue application to do for recommendation is being done .

Summary Productivity increase , of employees expenses reduce the product competitiveness , quality and work release size increase important importance occupation is doing Based on this, we offer doing cement products packaging ie to cover process automation method , quality , and cost in terms of benefit brings \_

**Used literature .**

1. Prognozlashtirish va makroiqtisodiy tadqiqotlar instituti (PMTI) ekspertlari tomonidan 2016-2022 yillarda O‘zbekistonda sement sanoatining rivojlanish dinamikasi o‘rganildi. Matbuot xizmati 2022-yil fevral.
2. Каминский М.Л., Монтаж приборов и систем автоматизации. : Учебник для нач. проф. Образования.8-е издание стереотип –М. Академия: Высшая школа 2001г.-304 стр.
3. Ключев А.С. и др. Проектирование систем автоматизации технологических процессов; 2-е издание. -М.: Энергоатомиздат, 1990.
4. Технология упаковочного производства/Под ред. Э.Г. Розанцева. Учебник для вузов. – М.: Колос, 2002.
5. Е. Е. Носкова, Д. В. Капулин, Ю. В. Краснобаев, С. В. Ченцов «Автоматизированное проектирование средств и систем управления» *Электронный учебно-методический комплекс по дисциплине* Красноярск-2009
6. О.О.Хошимов, «Umumsanoat mexanizmlarining avtomatlashtirilgan elektr yuritmalari» darslik Toshkent 2020-yil

**Internet ma'lumotlari**

1. [https://uz.wikipedia.org/wiki/Sement\\_sanoati](https://uz.wikipedia.org/wiki/Sement_sanoati)
2. <https://avtovsamare.ru/uz/suhoi-sposob-proizvodstva-portlandcementsuhoi-sposob-proizvodstva/>
3. [https://scholar.google.com/citations?view\\_op=view\\_citation&hl=ru&user=WKISOtYAAAAJ&citation\\_for\\_view=WKISOtYAAAAJ:u-x6o8ySG0sC](https://scholar.google.com/citations?view_op=view_citation&hl=ru&user=WKISOtYAAAAJ&citation_for_view=WKISOtYAAAAJ:u-x6o8ySG0sC)