**Polina Tsumareva**
Science tutor *A. Karpenko*
BRU (Mogilev)

# USE OF MODERN MEANS OF ENSURING SAFETY OF LOADS DURING TRANSPORTATION AND STORAGE

This topic and direction of this work have been chosen because the use of modern means of transport allows to realize the main rule of logistics: reduce costs but preserve high quality of loads. It solves the problem of competitiveness: the higher quality of transportation and storage, the higher the firm's reputation and the bigger number of clients. Implementation of modern means raises ecological security due to lowering the risks of damage during transportation of hazardous chemical loads.

Since my main task consists in determining means of ensuring the safety of loads, first I need to specify what the safety of loads is.

The safety of load is conservation of its qualitative and numerical characteristics during transportation. The quality of load is the combination of properties which determine its convenience range for use. The amount of load is measured in weight and volumetric characteristics.

Studying the cargo delivery process we observed the fact that during transportation and storage, products experience shock loads which can damage them. Modern elastic materials and fastening devices allow to fix loads securely and compensate for mechanical stress. Many companies use special indicators and devices for determining shock and vibration loads during their transportation and storage. Such indicators are produced by Chatsworth Data Corp in the USA and Fri-Wall Pty. Ltd. in Australia [1]. The indicator which is attached to packaging of fragile and highly sensitive loads measures and records the value of shock loads in case of improper handling in the warehouse or during transportation.

The most modern means which allow preserving the quality of loads are containers and pallets with elastic devices. For example, in the USA company NP Marketing manufactures and uses the system Pall-Grad which has been invented for cargo packing [2]. The base of technology represents specialized pallets which in case of impact provide displacement of all production and not of individual elements. It provides increased safety.

In Japan firms actively use containers with elastic devices for absorption of vibration and pushes during transportation [3]. A container is installed on four foundations which fit into the grooves in the corners of the base. Springs are installed in each groove between bearings and the base of container. Also a groove with a spring is fixed in the center of the base of container. A bearing with a lug is located in the groove. After the container is installed, this lug fits into the nest on a railway platform and is fixed in it.

One of the most necessary conditions of safety of loads is the compliance with temperature requirements. For example, at a meat processing plant chilled meat is kept in refrigerators with artificial or natural air flow at temperature from 0°C to -4°C and at

a relative humidity of 85%. The touch of meat carcasses is prohibited. Frozen meat is kept at temperature -8°C and at a relative humidity of 95% [4].

According to this analysis, we can assume that the use of elastic materials and devices during transportation gives the opportunity to securely preserve production from external influence, reduce packaging time and achieve savings in labor costs. Also we must not forget that there exist loads for which fastening devices are not as necessary as the compliance with temperature requirements. And transport companies should use the experience of other manufactures in order not to repeat their mistakes.

## REFERENCES:


1. Chatsworth.com [Electronic resource] : Welcome to Chatsworth Products Website. – Mode of access: https://www.chatsworth.com/en-us. – Date of access: 03.03.2021.
2. Np-marketing.net [Electronic resource] : Welcome to Np-marketing.net. – Mode of access: https://np-marketing.net. – Date of acess: 03.03.2021.
3. Nittsu.co.jp [Electronic resource] : Welcome to Nittsu.co.jp. – Mode of access: https://www.nittsu.co.jp. – Date of access: 03.03.2021.
4. Foodteh.ru [Electronic resource] : «Мясо. Мясопродукты. Пищевые технологии». – Mode of access: https://foodteh.ru. – Date of access: 03.03.2021.



**Alexandra Shestsel, Angelina Simonchik**
Science tutor *L. Bedritskaya*
BSEU (Minsk)


## VIDEO STREAMING SERVICES VS. MOVIE THEATERS

The purposes of this research are to study cinema industry and streaming services, their profitability, the impact of COVID-19 on them, and their development prospects.

Cinema plays an important role in our life. It enhances imagination, shows the world from multiple perspectives and broadens our vision and thinking.

Movie theatres existed as long as cinema and they are still very popular. The main advantages of movie theatres everything that creates the special atmosphere: the large screen, better sound, and the focused environment with minimal distractions. Moreover, the famous despite being overpriced snacks. Sure, everybody can microwave popcorn – but will it be the same? Probably not. That is why so many people are ready to buy the snacks to get the most satisfaction from a movie.

Prior to 2020 worldwide box office revenue had been growing consistently for years and amounting to more than 42 billion U.S. dollars in 2019 [1]. However, *ticket sales* are not the only source of income for movie theatres. There are also *food, drink and merchandising sales,* which make up around a third of all their income in the USA.