The **BX NextGeneration Shipping** module is a technically sophisticated, highly flexible and extremely practical extension for the Modified eCommerce shop software. It stands out clearly from standard shipping modules.

Summary Profile

- **Architecture & Integration**: Exemplary integration via overloads, additional files and hooks. The shop's core files remain completely untouched, making the module fully update-proof.
- **Functionality**: The combination of multi-dimensional zone and weight scales, custom product surcharges, flexible bulky goods calculation modes (`full`, `add`, `highest`) and parcel split options seamlessly covers even complex logistics requirements.
- **Code quality**: The code is cleanly structured, written for high performance and protected against SQL injections.
- **Usability & UI**: The admin interface stands out thanks to modern Flexbox/Grid elements, dynamic net/gross conversion via JavaScript and clear inline help. On the front end, the hover zoom feature at checkout ensures maximum transparency for the customer.

The **BX NextGeneration Shipping** module combines a flexible logic engine with modern UI components for the backend and checkout.

*** Translated with www.DeepL.com/Translator (free version) ***

Detailed Description

1. Zone- and Weight-Based Shipping Calculation

- **Flexible Zone Configuration**: The module supports a dynamic number of shipping zones (e.g., Zone 1: DE, Zone 2: EU, Zone 3: WORLD). The ISO country codes can be maintained in the backend. The placeholder `WORLD` automatically captures all countries not explicitly assigned.
- **Dynamic Weight Scales**: Within each zone, any weight scales can be defined (e.g., `3:8.50, 7:10.50, 31.5:15.00`). The system determines the exact price tier for the total weight of the shopping cart at checkout.
- **Per-Zone Free Amounts**: For each zone, an individual threshold can be set, above which shipping is free (e.g., free shipping from €50 in Zone 1, from €150 in Zone 2).
- **Handling Fees**: Each zone can be charged a flat handling fee, which is added to the shipping costs.

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2. Item-Specific Shipping Surcharges & Bulky Goods

- **Individual Item Surcharges**: Fixed additional costs per product can be maintained directly in the item mask in the admin area. These are added to the base shipping costs in the shopping cart.
- **Bulky Goods System with 3 Calculation Modes**:
- `full` **(Add All)**: All bulky goods surcharges for all bulky goods items in the shopping cart are accumulated.
- `add` **(One per Item)**: A bulky goods surcharge is calculated for each different item type, regardless of the quantity.
- `highest` **(Only the Highest)**: Only the highest surcharge is applied once from all bulky goods items in the shopping cart.

3. Intelligent Package Split (Division When Exceeding Maximum Weight)

- **Package Weight Limits**: If the total weight of an order exceeds the defined maximum weight per package (e.g., 31.5 kg), the module automatically splits the shipment into multiple packages and calculates the shipping costs accordingly.
- **Even Distribution (`EVEN_DISTRIBUTION`)**: Distributes the total weight evenly across the required number of packages (e.g., 34 kg = 2 packages of 17 kg each), which often leads to more favorable weight tiers.
- **Remainder Distribution (`REMAINDER_DISTRIBUTION`)**: Fills the packages to the maximum and packs the remainder into a single additional package (e.g., 34 kg = 1 package with 31.5 kg + 1 package with 2.5 kg).

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4. Modern Admin Interface & Convenience Features

- **Interactive Tables & JS Helpers**: Weight scales and country codes are managed dynamically in the backend using grid/flexbox layouts. Rows can be added via button or Enter key.
- **Automatic Net/Gross Conversion**: Prices adjust live during input based on the selected tax class.
- **Zone Synchronization**: When the number of zones in the module is adjusted, the configuration fields and database structures are automatically synchronized.

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5. Frontend Transparency in the Checkout

- **Hover-Zoom-Box (`.hover-zoom-box`)**: In the checkout process, additional costs are transparently itemized for the customer. When the customer hovers over the items, a popover precisely shows how the shipping costs are composed.
- **Digit Markers**: Visual indicators (such as ① for item surcharges and ② for bulky goods) clearly associate the fees in the checkout.

The module is at a professional agency level and is fully recommended for productive use.